

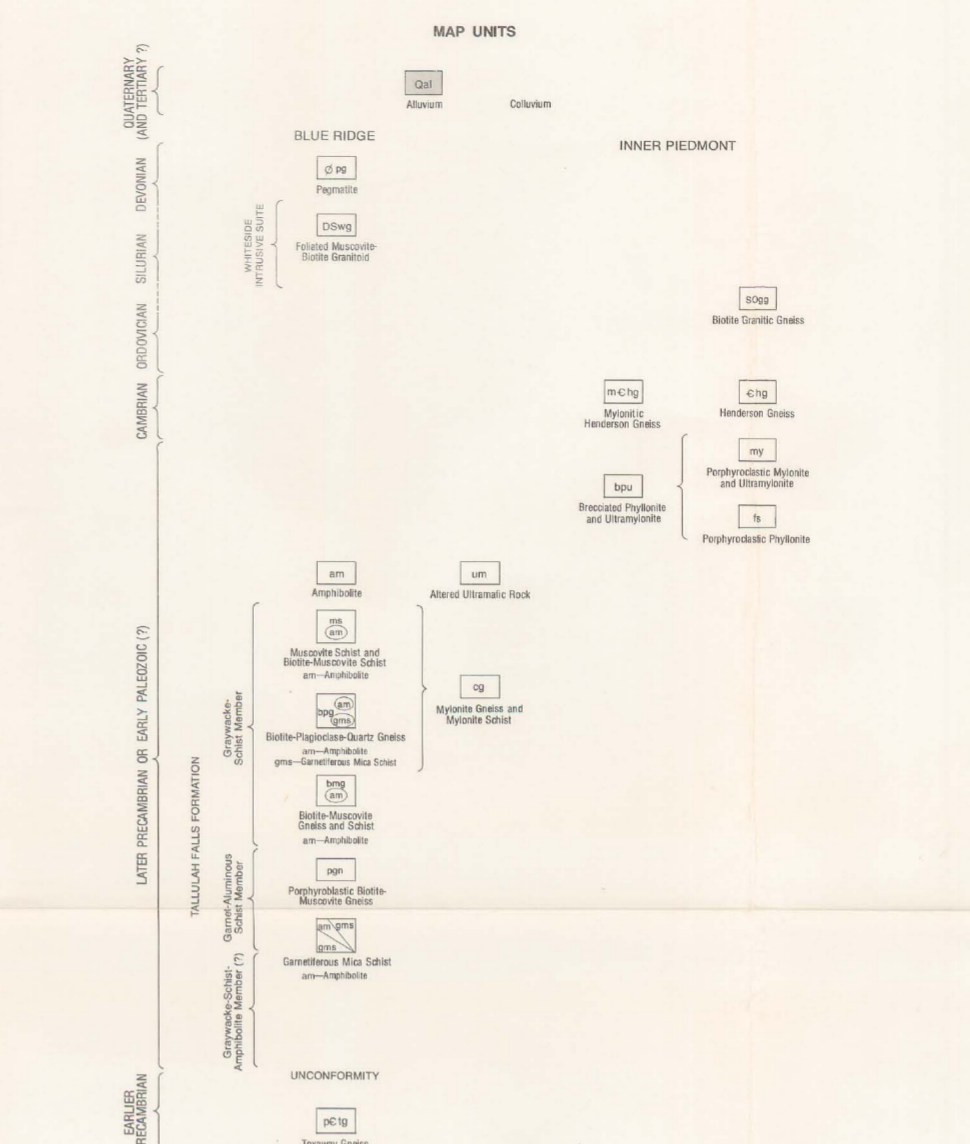
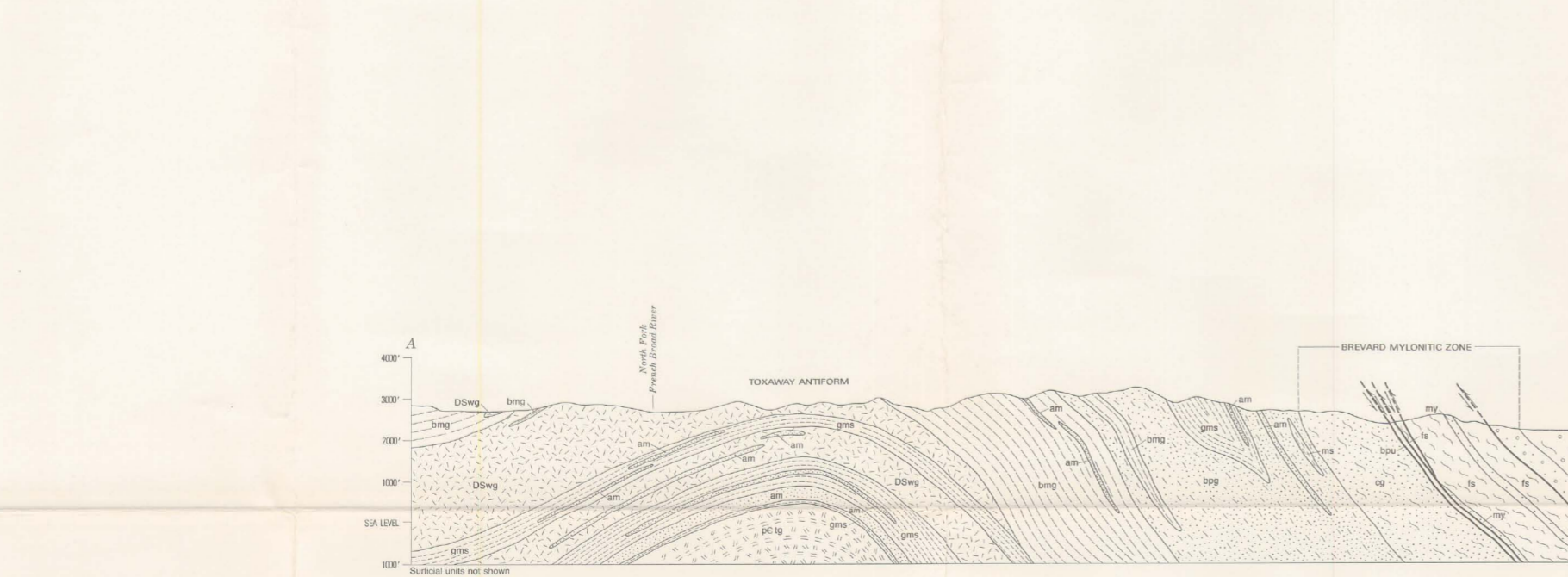


Geology by J. Wright Horton, Jr., 1975-74. Assisted by Beverly R. Horton, 1979-74; Clyde A. Burpo, 1979; and G. Richard Whitecar, 1974.
Map preparation and editing by R. J. Floyd, L. S. Wiener, and C. E. Merschat.

1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24,000

Contour interval 40 feet
Occasional 20 foot contours shown by broken lines
Datum is mean sea level



DESCRIPTION OF MAP UNITS

Qal ALLUVIUM—Unconsolidated stream deposits composed of poorly to well-sorted gravel, sand, silt, and clay. Only larger deposits indicated on map.

am COLLUVIUM—Unconsolidated, poorly sorted, bouldery to fine-grained debris of local origin. Locally present as hillside block fields, which commonly merge with valley fill stream courses and do not take or fan deposits at the base of steep slopes. Not mapped.

Dswg PEGMATITE—Very coarse- to coarse-grained. Composed mainly of microcline, albite-oligoclase, quartz, and muscovite. Locally contains accessory zircon, apatite, and opaque minerals. Composition ranges from granodiorite to granite. Foliation ranges from prominent to unrecognizable. Biotite is generally concordant to foliation or layering in surrounding host rocks. Local discordances are present; xenoliths and xenophyes are common, especially in host mafic rocks. Too small to show accurately at map scale; location and trend of mapped bodies indicated by S.

Dswg FOLIATED MUSCOVITE-BIOTITE GRANITOID—Very light-gray, medium-grained. Composed mainly of albite-oligoclase (24-40 percent), quartz (30-36 percent), microcline (16-25 percent), biotite (5-10 percent), and muscovite (2-4 percent). Accessories include zircon, apatite, and opaque minerals. Composition ranges from granodiorite to granite. Foliation ranges from prominent to unrecognizable. Biotite is generally concordant to foliation or layering in surrounding host rocks. Local discordances are present; xenoliths and xenophyes are common, especially in host mafic rocks. Too small to show accurately at map scale; location and trend of mapped bodies indicated by S.

SOg BIOTITE GRANITIC GNEISS—Medium-light-gray, medium-grained, foliated. Composed mainly of oligoclase, microcline, quartz, biotite, and minor muscovite. Distinguished from the Henderson Gneiss by the absence of augen and slightly lighter color.

Chg HENDERSON GNEISS—Biotite granitic augen gneiss, medium-light-gray to medium-dark-gray, homogeneous, well-foliated. Consists of coarse microcline augen in a fine- to medium-grained matrix composed of microcline (17-48 percent), oligoclase (30-38 percent), quartz (25-31 percent), biotite (3-13 percent), muscovite (2-10 percent), and minor amounts of epidote (0-5 percent) and zircon (0-3 percent). Accessory minerals include zircon, apatite, calcite, hematite, opaque minerals, zircon, and garnet. Locally more deformed toward the Brevard zone. U-Pb concordant intercept age from zircon analysis is about 983 m.y. (Sinha and Glover, 1978). Rb-Sr whole rock age is 536 ± 27 m.y. (Odom and Fullagar, 1973).

mch MYLONITIC HENDERSON GNEISS—Mylonitic rocks derived from the Henderson Gneiss. There is a gradual textural progression across strike from southeast to northwest, from porphyroclastic mylonite to ultramylonite and, as microcline porphyroclasts decrease in size and abundance, the rocks are yellowish gray and consist of round medium- to coarse-grained porphyroclasts of microcline in a fine-grained matrix. Blastomylonite contains medium-grained plagioclase porphyroclasts. All the rocks are composed of quartz (25-35 percent), microcline (20-35 percent), albite-oligoclase (11-30 percent), muscovite (5-10 percent), biotite (0-10 percent), epidote (2-5 percent), and chlorite (0-5 percent). Spinel and albite are accessory. The whole rock ages are 356 ± 8 m.y. (Odom and Fullagar, 1973) and 387 ± 14 m.y. (Bond and Fullagar, 1974). U-Pb concordant intercept age from zircon analysis is 456 m.y. (Sinha and Glover, 1978). The ages are interpreted as approximate minimum ages of mylonitic recrystallization and/or regional metamorphism.

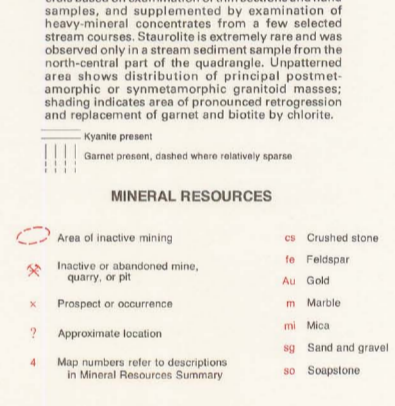
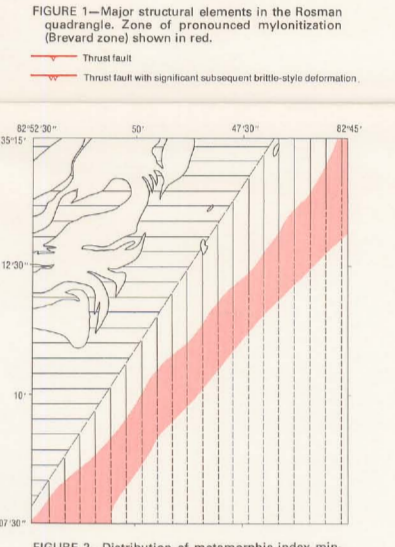
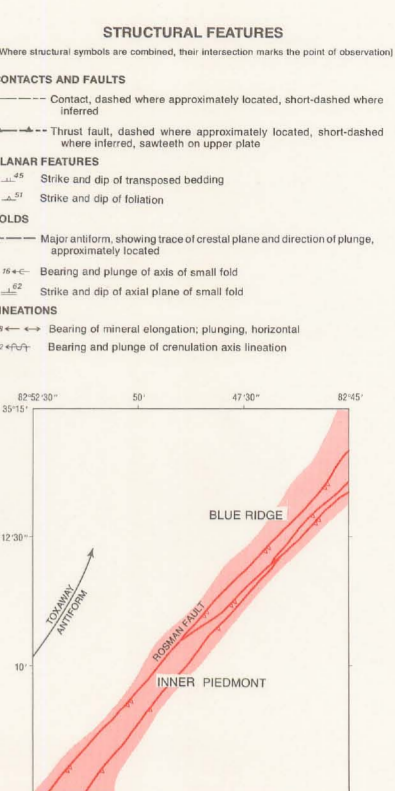
my PORPHYROCLASTIC MYLONITE AND ULTRAMYLONITE—Mylonitic rocks, interbedded and gradational, with less than 33 percent porphyroclastic minerals; probably derived from the Henderson Gneiss or from metagranitic rocks with parts of the Cheega River Formation as defined in South Carolina (Hatcher, 1969, 1970).

Porphyroclastic mylonite is yellowish gray, light greenish gray, and light gray to medium gray. Round porphyroclasts of albite-oligoclase, and less commonly of microcline, compose 10-25 percent of the rock and range from 0.1 to 8 mm across. Some porphyroclasts are fractured and broken as well as partially resorbed. Others are divided into tabular and recrystallized into porphyroclastic aggregates. The fine-grained, highly recrystallized matrix, which makes up 75-90 percent of the rock, appears to be finely laminated. Composed of quartz (31-51 percent), albite-oligoclase (25-35 percent), microcline (30 percent), disseminated muscovite (7-25 percent), chlorite (1-10 percent) and epidote (0-7 percent).

Ultramylonite is very light gray to medium dark gray and yellowish gray. It is finely laminated to homogeneous and has a porcellanous appearance. Round feldspar porphyroclasts, which make up less than 10 percent of the rock, are rarely larger than 0.2 mm across but locally are as large as 1 mm across. Composition of the ultramylonite is very similar to that of the porphyroclastic mylonite.

fs PORPHYROCLASTIC PHYLLONITE—Medium-light-gray to medium-dark-gray, fine- to medium-grained, strongly deformed pelitic rock. Composed mostly of muscovite (27-41 percent), quartz (27-50 percent), and albite-oligoclase (5-25 percent). Chlorite (0-20 percent) and amorphous carbon (0-5 percent) are commonly present. Curved, lenticular muscovite aggregates porphyroclasts, as much as 2.5 cm long and 1 cm thick, are flattened in the foliation planes and give rise to a distinctive "fish scale" or "butter" appearance. Similar to and probably correlative with chlorite-muscovite burlon phyllite of the Cheega River Formation as defined in South Carolina (Hatcher, 1969, 1970).

bpq BRECCIATED PHYLLONITE AND ULTRAMYLONITE—Tectonic mélange or broken formation derived by pervasive tectonic brecciation and mixing, at all scales, of various portions of the porphyroclastic mylonite and ultramylonite (my) unit and the porphyroclastic phyllonite (fs) unit. Composed of cohesive microbreccia masses of carbonaceous phyllonite, ultramylonite, porphyroclastic mylonite, and rarely exotic blocks of quartzite and calcitic marble. Pools and lenses of amorphous carbon are especially common along small intrafault faults. Accessory chlorite is common and relief garnets are present locally. Numerous mesozoic cross-cutting faults (too small



MINERAL RESOURCES

Area of inactive mining
Inactive or abandoned mine, quarry, or pit
Prospect or occurrence
Approximate location
Map numbers refer to descriptions in Mineral Resources Summary

Crushed stone
Feldspar
Gold
Marble
Mica
Sand and gravel
Soapstone

TABLE 1—Mineral, quarries, pits, prospects, and occurrences in the Rosman quadrangle.

Map Number	Name	Mineral Commodity
1	Bryson pit	Sand and gravel
2	Unknown	Crushed stone
3	Unknown	Crushed stone (and marble?)
4	Norris mine	Mica
5	Prospect, name unknown	Mica
6	Prospect, name unknown	Mica
7	Mine, name unknown	Soapstone
8	Prospect, name unknown	Soapstone
9	Kings Mill mine	Gold
10	Occurrence	Marble
11	Charlie Norris prospect	Feldspar

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