

**Metasandstone and Schist**  
(Small circles indicate places where metaconglomerate was observed)  
Metasandstone (wacke), medium bluish-gray to yellowish-gray, medium to fine-grained, thick to thin-layered; schist, generally lustrous light olive-gray to dark greenish-gray, medium to fine-grained; major minerals are biotite, muscovite, and quartz, locally with garnet. Metasandstone grades into metaconglomerate in some places, includes granitic and pegmatitic lenses and layers up to several feet thick. Sequence probably derived from impure feldspar-rich sandstone with minor conglomerate, interbedded with mudstone and siltstone.

**Garnetiferous Muscovite and Muscovite-Biotite Schist**  
Schist, muscovite and muscovite-biotite, generally containing garnet porphyroblasts, lustrous white to yellowish-gray, medium-grained. Minor amounts of medium to thin-layered metasandstone. Locally contains granitic nodules and layers. Forms a large lens nearly enclosed by and gradational into ce unit in the west-central part of the quadrangle. Probably derived from argillaceous rocks with minor sandy layers.

**Metasandstone, Metaconglomerate, and Biotite-Muscovite Schist**  
(Small circles indicate places where metaconglomerate was observed)  
Metasandstone, medium light-gray to yellowish-gray, massive to thin-layered; metaconglomerate, light bluish-gray, massive to thick-layered, with deformed quartz pebbles as much as two inches in length; muscovite-biotite-garnet schist, lustrous light olive-gray to greenish-gray, medium to fine-grained. Schist contains some graphite, particularly near eastern contact. Sequence probably derived from impure sandstone, quartz sandstone, impure conglomerate, quartz pebble conglomerate, siltstone, and mudstone.

**Graphite-Muscovite Schist**  
Dark graphite-muscovite schist, lustrous medium dark-gray to light gray, fine-grained with scattered porphyroblasts, commonly contains garnet, biotite, and kyanite, locally contains staurolite or chlorite. Pyrite abundant in places. Minor, thin-layered dark-gray metasandstone. Probably derived from carbonaceous mudstone with some silty and sandy layers.

**Muscovite-Chlorite Schist**  
Muscovite-chlorite schist, light to dark greenish-gray, fine-grained, commonly contains garnet and graphite. Minor thin layers of metasandstone. Probably derived from mudstone with minor silty and sandy layers.

**Thin-layered Metasandstone and Schist**  
Metasandstone and metasilstone, yellowish-gray to medium bluish-gray, generally thin-layered but locally medium-layered; schist, lustrous light olive-gray to greenish-gray, fine-grained. Schist locally contains graphite and garnet. Probably derived from thinly bedded sequence of sandstone, siltstone, and mudstone.

**Cataclastic Gneiss**  
Cataclastic granitic gneiss and biotite gneiss, light gray to medium dark gray with conspicuous white porphyroclasts of microcline and plagioclase, coarse to medium-grained, massive to thin-layered. Locally includes biotite schist and bodies of amphibolite. Degree of cataclasis variable; strongly mylonitized near the Brevard Fault Zone, with zones of mylonite up to several feet thick conformable to the gneissic layering.

**Biotite Gneiss**  
Biotite gneiss, dark bluish-gray to light gray or white in contrasting layers, medium to coarse-grained, medium to thin-layered. Minor amounts of biotite schist, amphibolite and augen gneiss. Schistosity generally parallel to compositional layering. In some places, coarse-grained with conspicuous microcline crystals in finer, dark groundmass.

**Augen Gneiss**  
Biotite augen gneiss, medium gray to medium bluish-gray, generally massive, homogeneous, and well-foliated, with minor biotite gneiss and schist. Conspicuous feldspar (mainly microcline) augen in a medium-grained matrix of quartz, plagioclase, microcline, biotite, muscovite, epidote, allanite, and opaque minerals. Equivalent to part of the Henderson Granite of Arthur Keith (1905, Description of the Mt. Mitchell quadrangle [N. C., Tenn.], U.S. Geol. Survey, Geol. Atlas, Folio 124).

**Granitic Gneiss**  
Biotite granitic gneiss, light bluish-gray, medium-grained, commonly with slightly contrasting thin to medium-compositional layering. Differs from augen gneiss in absence of augen and in more felsic composition. Equivalent to part of the Henderson Granite of Arthur Keith (1905, Description of the Mt. Mitchell quadrangle [N. C., Tenn.], U.S. Geol. Survey, Geol. Atlas, Folio 124).  
NOTE: Stratigraphic sequence, Biotite Gneiss, Augen Gneiss, Granitic Gneiss may be reversed.

**Geologic contact, dashed where approximately located**  
**Fault, dashed where approximately located; arrows in cross section indicate inferred relative movement**

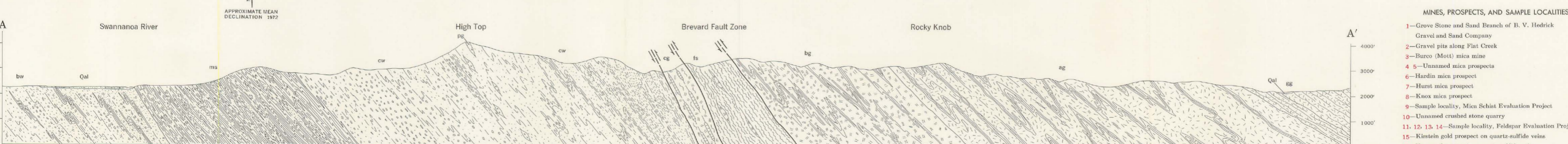
**PLANAR FEATURES**  
f 46 Strike and dip of bedding  
f 52 Strike and dip of compositional layering other than bedding  
f 24 Strike and dip of schistosity  
f 47 Strike and dip of foliation in non-schistose rocks  
f 20 Strike and dip of axial plane of small fold

**LINEAR FEATURES**  
Bearing and plunge of axis of small fold  
Bearing and plunge of crenulation axis  
Bearing and plunge of mineral elongation or streaking  
Bearing and plunge of axis of red-like pebble

**Mine or Quarry**  
inactive active inactive  
Outline of area worked for sand and gravel, partly backfilled

**F** Feldspar  
**MI** Muscovite mica  
**MS** Mica schist  
**QSu** Quartz-sulfide vein  
**SG** Sand and gravel  
**CS** Crushed stone  
**?** Sample locality, Mica Schist Evaluation Project  
**●** Sample locality, Feldspar Evaluation Project  
**?** Location uncertain  
**2** Map numbers refer to description in Mineral Resources Summary

**MINES, PROSPECTS, AND SAMPLE LOCALITIES**  
1—Grove Stone and Sand Branch of B. V. Hedrick Gravel and Sand Company  
2—Gravel pits along Flat Creek  
3—Barco (Mott) mica mine  
4 5—Unnamed mica prospects  
6—Hardin mica prospect  
7—Hurst mica prospect  
8—Knox mica prospect  
9—Sample locality, Mica Schist Evaluation Project  
10—Unnamed crushed stone quarry  
11, 12, 13, 14—Sample locality, Feldspar Evaluation Project  
15—Kinslein gold prospect on quartz-sulfide veins  
16—Unnamed prospect on quartz-sulfide vein



SECTION ALONG A-A'  
No vertical exaggeration

GEOLOGIC MAP OF THE BLACK MOUNTAIN QUADRANGLE, NORTH CAROLINA

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