

## Explanation

### Blacksburg South, modified from Nystrom (2004), 1:24,000 scale

**Qal** Quaternary alluvium

#### Intrusive Rocks

**Ztr** Metatronjemite - Light gray to light yellow, medium-to coarse-grained felsic gneiss with mafic intrusions

**Zto** Metatonalite - Light to medium gray, coarse-grained, with large Kspar and quartz grains

#### Inner Piedmont Belt

**Czss** Sillimanite-mica schist - Generally thin-bedding sillimanite mica schist, with or without garnets, that is interlayered with subordinate biotite gneiss and amphibolite

**Czbg** Biotite gneiss - Fine to coarse-grained, gray thin-to thick-layered, biotite-quartz-feldspar gneiss with varying amounts of garnet

**Czq** Quartzite - White, variably textured ridge-forming quartzite

**Czgs** Garnet-mica schist - Brownish gray, garnet schist characterized by large garnets 1-2 cm in diameter. Associated with quartzite

#### Kings Mountain Sequence of Carolina Terrane

**Zbls** Phyllitic metasilstone - Light to dark gray phyllite composed mainly of quartz and white mica, locally garnetiferous

**Zblq** Laminated quartzite - White to gray, fine- to medium grained, laminated quartzite

**Zblg** Gaffney Marble Member - Light gray to blue gray, fine- to coarse grained, banded marble, not well exposed

**Dog** Gneissic metagranite - Light gray to greenish gray, medium- to coarse grained, biotite metagranite

**Zbms** Mafic schist with quartzite - Dark gray schist with iron beds and quartzite

**Zbs** Quartz sericite phyllite and schist - Fine to medium-grained, commonly thinly layered

**Zbmp** Phyllitic metatuff - Gray to dark gray varied volcanics including crystal and lithic metatuffs. Included Jumping Branch manganiferous beds

**Zbct** Plagioclase crystal metatuff - Gray, generally well foliated, assorted volcanics of mainly felsic to intermediate composition, with crystal and less abundant lithic metatuffs

**Zbvm** Mafic to intermediate metavolcanic rocks - Medium gray, dark gray, or green hornblende phyllite, hornblende gneiss and amphibolite

**Zbvf** Felsic metavolcanic rocks - White to medium gray, medium grained, assorted felsic metavolcanic rocks

**Zbj** Jumping branch Member - Brown to dark gray or nearly black, garnet-quartz rock or interlayered with brown, fine-grained quartz sericite schist

**Zbq** Quartzite - White to gray, fine- to medium grained quartzite

**Zbkq** High alumina quartzite - Medium gray kyanite quartzite

**Zbdc** Draytonville Metaconglomerate Member - Light gray, coarse-grained, schistose metaconglomerate

**Zbc** Quartz pebble metaconglomerate - Light gray, schistose with quartz pebbles 1-2 cm in diameter

### Wilkinsville & Hickory Grove, modified from Horton and Dicken (2001), 1:500,000 scale

**Cg** Granite (Carboniferous and Permian)

**mtg** Biotite metatonalite and granodiorite (Paleozoic or Neoproterozoic?)

**PzZg** Metamorphosed quartz diorite to diorite (Paleozoic or Neoproterozoic?)

**Zbf** Felsic metavolcanic rocks

**Zbm** Mafic to intermediate metavolcanic rocks

### Kings Creek, modified from Howard (2004), 1:24,000 scale

**Qal** Alluvium - Deposits of sand and gravel with lesser amounts of silt and clay accumulated in flood plains of major streams

#### Kings Mountain Sequence of Carolina Terrane

**Zbls** Phyllitic metasilstone and Quartzite - Very pale orange, micaceous metasilstone with very fine to fine grained and lineated quartzite float. Rock is composed chiefly of quartz, feldspar, and white mica. Compositional layering consists of quartz layers and fine white mica domains, less than 1 cm. Scattered pieces of dark-greenish-gray phyllonite are probably interlayered. Correlative with phyllitic metasilstone and laminated micaceous quartzite members of the Blacksburg Formation

**Zbs** Quartz schist, metasilstone, and phyllite - Very pale orange and grayish-yellow, fine- to medium grained quartzofeldspathic rock, includes quartz schist, meta-arenite, metasilstone, and metaconglomerate. Phyllite is darker: gray, pale red purple, and brownish-gray. Thin compositional layering of metasilstone and phyllite is common. Correlative with metasedimentary unit of the Battleground unit

**Zbc** Metaconglomerate - Contains rounded pebbles and cobbles, partially flattened, of quartzite and occasional clasts of mottled phyllite. Clasts are slightly aligned in the major foliation; foliation of white mica anastomoses around wedge-shaped clasts

**Zbmp** Mottled phyllite (lapilli metatuff) - Dark, spotted phyllitic rock, medium bluish-gray, and light to medium gray. Distinctive rounded and elliptical clast and lapilli component flattened in major foliation planes, which is mottled in appearance. Correlative with the mottled phyllitic metatuff of the Battleground Formation

**Zbmp-a** Siliceous alteraton zone within Zbmp

**Zbct** Crystal metatuff - Light greenish-gray, greenish-gray, pale gray, and light bluish-bray schist and gneiss. Microcrystalline to finely crystalline rock composed primarily of quartz and feldspar. Correlative with the plagioclase-crystal metatuff

**Zbgs** Greenstone - One occurrence of greenstone is noted, in the streambed of Kings Creek on the north side of Route 5. Pale green, fine-grained schist composed of chlorite, epidote, quartz, feldspar, and magnetite; it has a rounded and knobby surface appearance

#### Mixed Plutonic and Volcaniclastic Rocks

**Zto** Metatonalite and volcaniclastic rocks - Felsic rock of mixed origin and consisting of intrusive tonalite, dacitic flows, and epiclastic byproducts of both. The distinction between intrusive, extrusive, and sedimentary rocks is virtually indistinguishable biotite, and blue quartz granules. It has a homogeneous fabric with poorly developed, discontinuous biotite folia. Mafic inclusions, xenoliths, are common. Correlative in part with Horton's (2000) metatonalite (intrusive)

**Ztom** Metatonalite with mafic layers - Areas of metatonalite with greater proportion of mafic enclaves or xenoliths, enough to map. Large (meters) mafic inclusions of hornblende gneiss and epidosite are found throughout the unit


#### Intrusive Rocks

**Diabase** - Mostly fine to very fine crystalline mafic igneous rock. Composed of pyroxene and plagioclase; ophitic texture present in coarse-grained varieties. Found as meter-thick layers at high angle foliation

**mbg** Metagabbro - Dark greenish-gray to greenish-black, fine- to coarse-crystalline mafic rock, composed of hornblende and plagioclase, some mafic grains may be relict pyroxene

**Ztrn** Interlayered mafic and felsic gneiss - Northern unit. White to very light gray, medium to finely crystalline felsic gneiss with serate texture. Felsic gneiss composed of feldspar, quartz, and muscovite. Mafic gneiss is dark greenish-gray to greenish-blaccomposed of hornblende and feldspar

**Ztrs** Interlayered mafic and felsic gneiss - The southern unit (Ztrs) is exposed in the core of the South Creek antiform

 Overturned fold axis, arrow shows plunge direction