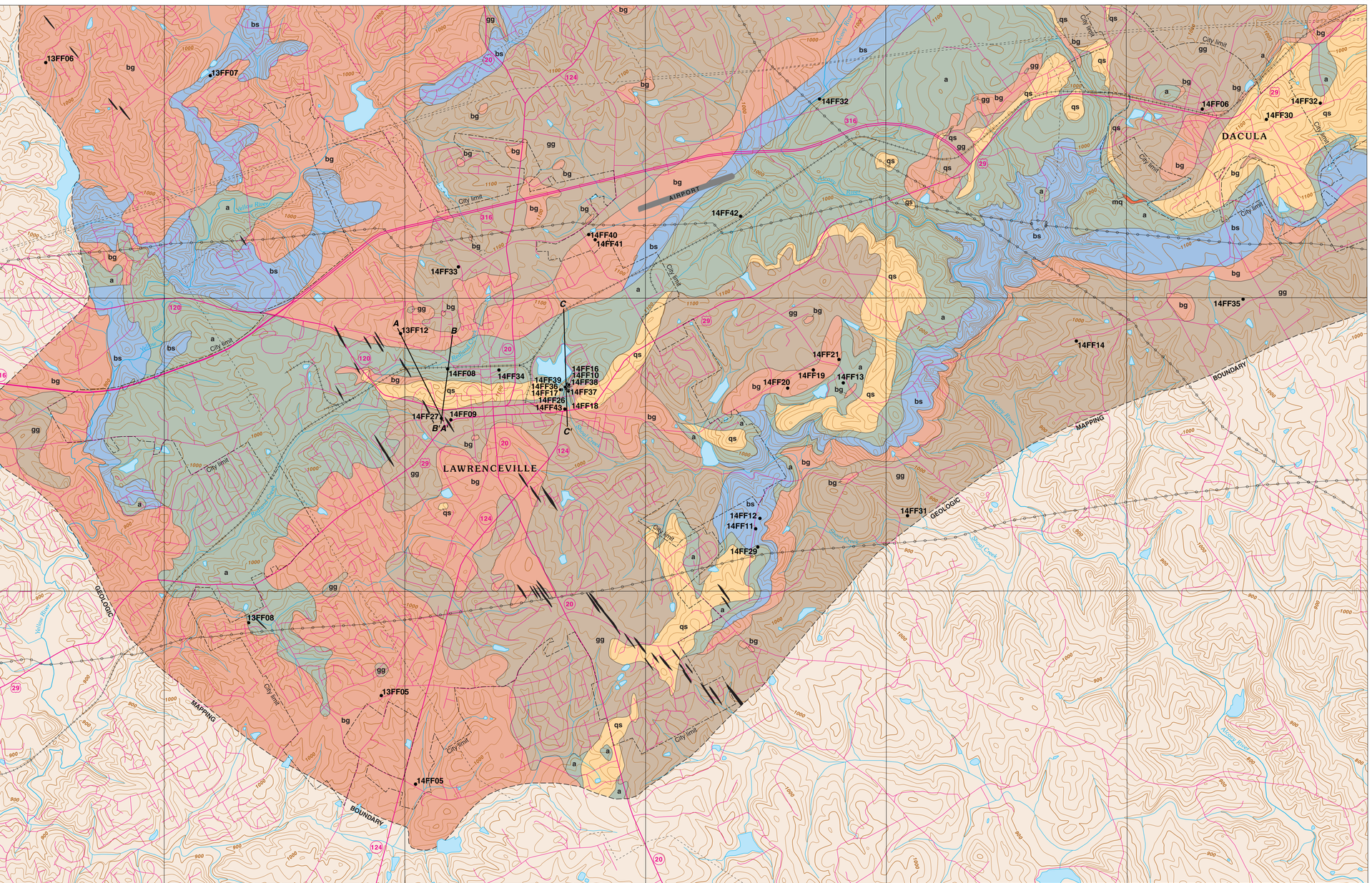
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
CITY OF LAWRENCEVILLE, GEORGIA

WATER-RESOURCES INVESTIGATIONS REPORT 98-4233
Lithologic map showing the distribution of major rock types, fault contacts, and well locations in the Lawrenceville area, Georgia—PLATE 1
Chapman, M.J., Crawford, T.J., and Tharpe, W.T., 1998, Geology and Ground-Water Resources of the Lawrenceville Area, Georgia

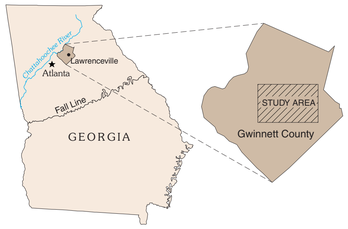
84°03'45"
34°
84°
83°56'15"
83°52'30"
33°56'15"



Base modified from U.S. Geological Survey Lawrenceville and Luxomni, Georgia; 1:24,000, 1992;
Lawrenceville limit from E&C Consulting Engineers Inc., 1997

Luxomni | Lawrenceville

0 0.5 1 1.5 2 MILES
0 0.5 1 1.5 2 KILOMETERS



EXPLANATION

LITHOLOGIC UNITS

a — **Amphibolite**—Fine- to medium-grained, dark-green to greenish-black, ocher-weathering, massive to finely layered, locally laminated, locally pillowed, locally chloritic, commonly garnetiferous, locally magnetite-bearing, generally pyrite-bearing, generally epidotic, hornblende-plagioclase and plagioclase-hornblende amphibolites with insignificant amounts (generally less than a very small fraction of one percent) of fine- to medium-grained, generally amphibole-bearing, granofels. The final weathering product of the amphibolite is a very characteristic dark-red clayey soil

bg — **Biotite gneiss**—Gray to grayish-brown to dark-gray, medium- to coarse-grained, commonly schistose, generally pegmatitic (biotite-muscovite-quartz-potassium-feldspar pegmatites), biotite-rich gneiss with generally rare but locally fairly common layers, lenses, and pods of hornblende-plagioclase amphibolite. Characteristically and commonly contains small pods and lenses of altered meta-ultramafic rocks. The biotite gneiss weathers to a uniform, slightly micaceous, dark-red saprolite and clayey dark-red soil; vermiculitic mica is characteristic of soils formed from the biotite gneiss

bs — **Button schist**—Dark-gray to brownish-gray, medium- to coarse-grained, lustrous (where fresh), (± chlorite)-garnet-biotite-muscovite-plagioclase-(± microcline)-quartz button schist with tiny black opaques. In most outcrops the schist contains large muscovite fish that weather to buttons. The button schist is resistant to weathering

gg — **Granite gneiss**—Complex of granite and granitic gneiss. Light-gray to whitish-gray, medium-grained muscovite-biotite-microcline-oligoclase-quartz gneiss having well defined gneissic layering. Most commonly is poorly foliated. Pavement outcrops, "whale-back" outcrops, and boulder outcrops are characteristic of this granite gneiss. Where deeply weathered the gneiss forms thin light-whitish-yellow sandy soils

mq — **Magnetite quartzite**—Thinly-layered (0.4 inch) to laminated, medium-grained, magnetite quartzite in units about 1 to 20 feet thick. Commonly has thin (0.4 to 1.6 inches) quartz-magnetite layers, with magnetite crystals as much as 0.4 inch in size, but commonly about 0.04 inch. The quartz-magnetite layers alternate with quartz layers without magnetite, or quartz layers with a small percentage of magnetite, about 1.6 to 3.2 inches thick. Magnetite clumps that generally disrupt the layering are locally as large as 8 inches, but are commonly about 0.4 inch

qs — **Quartzite and aluminous schist**—White to yellowish, sugary to vitreous, slightly graphitic to non-graphitic quartzite with accessory muscovite, garnet and aluminosilicate minerals (kyanite, staurolite, or sillimanite), in layers about 1 to 4 feet thick, interlayered with feldspathic quartzite and garnetiferous quartz-muscovite or muscovite-quartz schist. The aluminous schist part of the unit is commonly a tan- to yellow-weathering, sheared or button-textured, commonly quartzose, garnet-biotite-plagioclase-muscovite-quartz schist that generally contains kyanite or staurolite

Diabase—Fine- to medium-grained, dark-gray to black augite diabase, in dikes generally 16 to 66 feet wide. The diabase weathers to a dark-red clayey soil containing spheroidal boulders with fresh rock inside an armoring, ocherous rind. Most of these dikes have been mapped on the basis of residual boulders and may not be in the exact position shown on the map

Fault contact—Projected in some areas

A——A' **Line of hydrogeologic section**—Shown on Plate 2

14FF35 **Well and number**

LITHOLOGIC MAP SHOWING THE DISTRIBUTION OF MAJOR ROCK TYPES, FAULT CONTACTS, AND WELL LOCATIONS IN THE LAWRENCEVILLE AREA, GEORGIA

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