DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT 80-226
BELL—PRELIMINARY GEOLOGIC MAP KERSHAW QUAD.,
KERSHAW AND LANCASTER COUNTIES, SOUTH CAROLINA

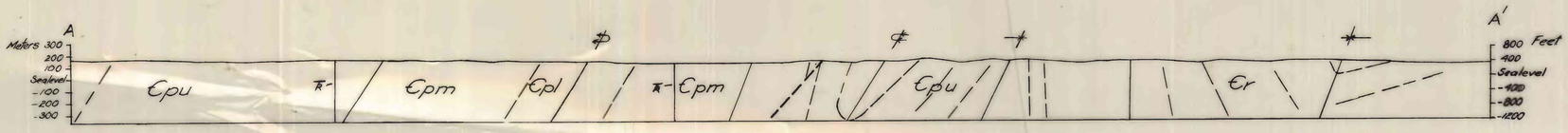
Base from U. S. Geological Survey, 1969

SCALE 1:24000

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

UTM GRID AND 1969 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

QUADRANGLE LOCATION



PRELIMINARY GEOLOGIC MAP AND SECTION OF THE KERSHAW QUADRANGLE, KERSHAW AND LANCASTER COUNTIES, SOUTH CAROLINA

By
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1980

CORRELATION OF MAP UNITS

Sedimentary and Metamorphic rocks	Intrusive rocks	
Qal		Holocene to Cretaceous*
Unconformity		
QKu		
Unconformity		
	TRd	Upper Triassic
	Unconformity	
	Clh	Carboniferous
	Cp	
Cr		Cambrian
Cpu		
Cpm		
Cpl		

Carolina Slate Belt

DESCRIPTION OF MAP UNITS

Sedimentary and Volcanic Rocks

Qal Alluvium (Holocene)—Various mixtures of sand, silt and clay with locally some gravel, predominately poorly drained flood-plain deposits, also includes some colluvium

QKu Gravel, sand, clayey sand and clay (Holocene to Cretaceous)—Mostly light colored Coastal Plain deposits with Middendorf Formation (Upper Cretaceous) at the base; overlain by younger upland deposits deeply weathered and much redistributed by leaching, colluvial and aeolian processes. Middendorf Formation probably absent where less than 17 meters (50 feet) thick

Cr Richtex Formation (Cambrian)—Gray and greenish-gray, thinly bedded and laminated metasiltstone and meta-argillite; locally contains thin layers of fine grained volcaniclastic rocks near the base. Weathers to grayish-orange and yellowish-gray saprolite. Magnetic anomalies in contact metamorphic aureole conspicuous. Upper contact not recognized. Lower contact, conformable and gradational with underlying unit, is arbitrarily placed at the base of the lowest thick unit of laminated meta-argillite

Cpu Persimmon Fork Formation(?) (Cambrian)—
Upper unit: Fine-grained quartz muscovite schists, quartz chlorite muscovite schists, aphanitic quartzites, various argillaceous kaolinite-chlorite muscovite quartz rocks; gray, various light greenish-gray colors, and white. Probably derived from poorly bedded felsic volcaniclastic rocks including tuffs, crystal tuffs, poorly sorted lapilli tuffs and conglomerates. Relicit volcaniclastic textures locally preserved. Includes some fine to very fine chlorite-rich, quartz-poor layers and thin layers of laminated metasiltstone and meta-argillite in upper part. Cut by much altered mafic dikes of probable original andesitic composition, rare very fine-grained dense felsic dikes, and vast numbers of quartz veins. Mostly poorly exposed and much altered by epigene, hypogene and supergene processes. Lower contact is gradational into a poorly exposed more mafic unit

Cpm Middle unit: Poorly exposed dark-gray to black metavolcanic rock, fine-grained biotite, or chlorite, plagioclase-bearing, quartz-poor rocks, some with abundant euhedral plagioclase feldspar crystals in dark gray aphanitic matrix; poorly layered, weathers to grayish-red or reddish-brown saprolite. Includes some thin layers of quartz-sericite schist and chlorite-sericite-quartz schist. Apparently metamorphosed andesitic tuffaceous rock interlayered with minor amounts of thin bedded felsic tuff and lapilli tuff. Lower contact is at the top of thick felsic lapilli tuffs and conglomerates

Cpl Lower unit: Metamorphosed volcaniclastic rocks similar in composition to upper unit but coarser, includes metamorphosed tuffs and volcaniclastic conglomerates; gray, various shades from dark to light, with matrix, commonly dark and fragments predominately lighter colored, but including some dark fragments. Larger fragments show effects of rotation and shearing. Composition probably originally dacitic in character but polymict with andesitic fragments, all much altered by epigenitic processes. Cut by altered mafic dikes rich in biotite and chlorite and by quartz veins

Intrusive Rocks

TRd Dikes (Late Triassic)—Black-to dark-gray dikes that range in thickness from less than 3 feet (1 meter) to more than 1000 feet (300 meters), fine-to medium-grained, some thicker dikes have fine-grained chilled margins. The composition is olivine-bearing diabase mostly with intergranular or subophitic texture but also porphyritic with olivine phenocrysts, and rarely feldspar phenocrysts. Commonly weathers spheroidally to a characteristic orange-brown soft residuum. The dikes produce strong magnetic anomalies used to project dikes where concealed or overlain by younger deposits. Thickness of some thinner dikes may be exaggerated

Clh Liberty Hill Granite (Carboniferous)—Pink to white biotite granite, biotite-hornblende granite and quartz monzonite, mostly coarse-grained, porphyritic or subporphyritic in the Kershaw quadrangle, some fine-to medium-grained biotite granite occurs near the center of the pluton, contains abundant xenoliths near contacts

Cp Pageland Granite (Carboniferous)—Pink to white, biotite granite and quartz monzonite; subporphyritic in Kershaw quadrangle, outcrops limited to northeast corner near Midway; mostly concealed by overlying younger deposits

qtzv Quartz vein (Cambrian to Carboniferous)—Mostly milky white veins, range from less than an inch to several feet (millimeters to 1 or 2 meters), only thicker conspicuous occurrences shown; generally poorly exposed but produces much float

Area of intensely leached and silicified rock, presumably resulting from epigenetic or hypogene processes, commonly with more or less abundant pyrite and iron oxides

Area of abundant float derived probably from nearby quartz vein

Contact-Dashed where approximately located, dotted where concealed

Fault-Dashed where approximately located

52 Fault, showing dip-ball and bar on downthrown side

450 Structure contours (in feet)—Drawn on the inferred pre-Cretaceous surface; dashed where projected above ground surface. Contour interval 50 feet. Datum is mean sea-level

Overturned anticline—Showing direction of dip of limbs and direction of plunge: approximately located; dotted where concealed

Overturned syncline—Showing direction of dip of limbs; approximately located; dotted where concealed

Asymmetric anticline—Short arrow indicates steeper limb

Asymmetric syncline—Short arrow indicates steeper limb

Contact metamorphic aureole-
Liberty Hill Granite: Outer boundary of inner contact metamorphic aureole (Speer, 1979) based on megascopic cordierite-bearing rock of the Richtex formation

Outer limit of glassy hornfels in volcaniclastic rocks of the Persimmon Fork formation

Contact metamorphic aureole-
Pageland Granite: Approximate outer limit of contact metamorphosed rocks, in part, extended from Butler and Howell (1979)

Strike and dip of beds
40 Inclined ⊕ Horizontal — Vertical

Strike and dip of compositional layering which may, or may not, be bedding
45 Inclined ‖ Vertical

Strike and dip of foliation
40 Inclined ◆ Vertical

Strike and dip of foliation in inclusion of schist in igneous rock
70 Inclined

Strike and dip of cleavage
65 Inclined ⊢ Vertical

45 Bearing and plunge of lineation

Area much disturbed by mine activity from which gold (Au), pyrite (py), and sericite (S) for filler and extender has been produced

Shaft, open cut and prospect pit

REFERENCES CITED

Butler, J.R. and Howell, D.E., 1978, Geologic map of the Taxahaw Quadrangle, Lancaster County, S.C., South Carolina Geological Survey, Open-file map.

Speer, J.A. (in press), Prograde metamorphism of the pelitic rocks in the contact aureole and xenoliths of the Liberty Hill pluton, South Carolina, Am. Jour. Sci.

* Holocene to Cretaceous deposits not shown on geologic section