

COLUMNAR SECTIONS

| GENERALIZED SECTION OF THE SEDIMENTARY ROCKS OF THE MOUNT MITCHELL QUADRANGLE. | | | | | | |
|--|------------------------|---------|-------------------|--------------------|---|---|
| SCALE: 1 INCH=1000 FEET. | | | | | | |
| SYSTEM. | FORMATION NAME. | SYMBOL. | COLUMNAR SECTION. | THICKNESS IN FEET. | CHARACTER OF ROCKS. | CHARACTER OF SOILS AND SURFACE. |
| | Shady marble. | Csh | | 600+ | White and blue massive banded marble. | Open, flat valleys. Deep, dark-red, clay soils. |
| CAMBRIAN | Erwin quartzite. | Ce | | 600+ | Massive white quartzite. | High, rocky mountains. Thin, sandy, and rocky soils. |
| | Hampton shale. | Cht | | | Blue and gray shale and slate. | Valleys and slopes. Light, sandy soils. |
| | Brevard schist. | Cbv | | 1000+ | Fine-grained black schist and slate, in places graphitic. | Valleys with low knobs and ridges. Thin, micaceous, and sandy soils. |
| | UNCONFORMITY | | | | | |
| ARCHEAN | Gneisses and granites. | | | | Description given in table below. | Description given in table below. |

| SECTION IN THE SWANNANOVA MOUNTAINS, MOUNT MITCHELL QUADRANGLE. | | | | | | |
|---|-----------------------------|---------|-------------------|--------------------|--|---|
| SCALE: 1 INCH=1000 FEET. | | | | | | |
| SYSTEM. | FORMATION NAME. | SYMBOL. | COLUMNAR SECTION. | THICKNESS IN FEET. | CHARACTER OF ROCKS. | CHARACTER OF SOILS AND SURFACE. |
| AGE UNKNOWN | Conglomerate and graywacke. | cg | | 750± | Gray feldspathic quartzite, graywacke, and some conglomerate, with beds of gray mica-schist and slate. | High mountains and peaks with cliffs. Thin, rocky, micaceous, and sandy soils. |
| | UNCONFORMITY | | | | | |
| ARCHEAN | Carolina gneiss. | Ac | | | Description given in table below. | Description given in table below. |

| TABLE OF IGNEOUS ROCKS OF THE MOUNT MITCHELL QUADRANGLE, ARRANGED IN ORDER OF AGE. | | | | | | |
|--|------------------------------------|---------|--------------------|--|--|--|
| SYSTEM. | FORMATION NAME. | SYMBOL. | LITHOLOGIC SYMBOL. | CHARACTER OF ROCKS. | CHARACTER OF SOILS AND SURFACE. | |
| TRIASSIC | Bakersville gabbro. | Fb | | Massive black and brown gabbro and diabase dikes and sheets. | Small knobs and butts, with many rock exposures. Yellow and brown clay soils. | |
| ARCHEAN | Henderson granite. | Arh | | Porphyritic granite, normal granite, gneissoid granite, and augen-gneiss, usually light colored. | Irregular mountains and plateaus with smooth, rolling surfaces. Thin, light-colored, sandy and clayey soils. | |
| | Cranberry granite. | Arcb | | Biotite-granite and granite-gneiss, coarse and fine; colors, light gray, dark gray, and white. Includes dikes of schistose and unaltered diabase, fragments of hornblende-gneiss, and dikes of unaltered, fine biotite-granite. | High, irregular mountains, peaks, and spurs, with round summits. Red and brown clayey soils with many ledges. | |
| | Soapstone, dunite, and serpentine. | ArS | | Dunite in part serpentinized. Soapstone contains talc and tremolite. | Yellow clay soils, with many ledges and fragments of rocks. | |
| | Roan gneiss. | Arr | | Hornblende-gneiss and hornblende-schist, with some massive and schistose diorite. Includes many beds of mica-gneiss, mica-schist, and hornblende-mica-gneiss, and dikes of altered and unaltered biotite-granite. | Broad plateau surfaces or depressions in Carolina gneiss ridges. Dark-red and brown clay soils. | |
| | Carolina gneiss. | ArC | | Interbedded mica-gneiss and mica-schist, coarse and fine, bluish gray and gray. Contains many small beds of hornblende-gneiss, large bodies of garnet-schist and kyanite-schist, and dikes of biotite-granite, both altered and unaltered. | Ridges, peaks, spurs, and high mountains with irregular crests. Red and brown micaceous and clayey soils. | |

NAMES OF FORMATIONS.

| SYSTEM. | ARTHUR KEITH, CRANBERRY FOLIO, U. S. GEOLOGICAL SURVEY, 1908. | NAMES AND SYMBOLS USED IN THIS FOLIO. | ARTHUR KEITH, ASHEVILLE FOLIO, U. S. GEOLOGICAL SURVEY, 1905. |
|------------|---|---------------------------------------|---|
| Triassic ? | Bakersville gabbro. | Bakersville gabbro. | Fb |
| CAMBRIAN | Shady limestone. | Shady marble. | Csh |
| | Erwin quartzite. | Erwin quartzite. | Ce |
| | Hampton shale. | Hampton shale. | Cht |
| | | SEQUENCE BROKEN | |
| | | Brevard schist. | Cbv |
| ? | Conglomerate and graywacke. | cg | ? Hiwassee slate. |
| ARCHEAN | Blowing Rock gneiss. ? | Henderson granite. | Arh |
| | Cranberry granite. | Cranberry granite. | Arcb |
| | Soapstone. | Soapstone, dunite, and serpentine. | ArS |
| | Roan gneiss. | Roan gneiss. | Arr |
| | Carolina gneiss. | Carolina gneiss. | ArC |

ARTHUR KEITH,
Geologist.