STATE OF CONNECTICUT
GEOLOGICAL AND NATURAL HISTORY SURVEY
JOE WEBB PEOPLES, DIRECTOR

Open Report

QUADRANGLE REPORT NO. 24
Plate 1

BEDROCK GEOLOGIC MAP OF THE LONG HILL QUADRANGLE, CONNECTICUT

By William P. Crowley, 1963-1965

EXPLANATION

In the rock descriptions below, primary minerals are listed in approximate order of increasing abundance. Grain-size definitions are: fine = less than 1 mm; medium = 1-5 mm; coarse = more than 5 mm.

JURASSIC (?)

Buttress Diabase
Brownish-orange-weathering, fine- to medium-grained, dark-gray diabase

PERMIAN (?)

Dacite porphyry
Very fine-grained muscovite dacite with phenocrysts of quartz and plagioclase

Pinewood adamellite
Very light-gray-weathering, medium-grained muscovite adamellite
outcrops of Pinewood Adamellite

MIDDLE AND UPPER ORDOVICIAN (?) — Hartland group

Prospect Formation
Most typically moderately well foliated, medium-grained, biotite-quartz-microcline- plagioclase gneiss bearing numerous, large, euhedral megacrysts of Carlsbad-twinned microcline, with minor interlayered muscovitic and biotitic schist, feldspathic and quartzose biotite gneiss, garnet-muscovite-quartz-feldspar gneiss and micaceous quartzite

Southington Mountain Formation
SMbg—*biotite-gneiss member. Medium- to coarse-grained feldspathic biotite gneiss typically containing a small amount of garnet and hornblende and characterized by plagioclase augen. The content of mafic minerals is variable and defines a layering in which mafic-poor and mafic-rich layers alternate*
SMbs—*banded-schist member. Thinly interlayered, medium- to coarse-grained garnet-plagioclase-biotite-muscovite-quartz schist and finer grained quartzose and feldspathic biotite gneiss*

Trap Falls Formation
TFn—*northwestern facies. Largely medium- to coarse-grained garnet-biotite-muscovite-quartz schist and finely laminated, fine-grained biotite-muscovite-quartz schist weathering deep rusty red. Includes interlayered feldspathic gneiss, some of which resembles the chief rock type of the Shelton facies*
TFs—*Shelton facies. Largely medium-grained, generally poorly foliated garnet-muscovite-microcline-quartz-plagioclase gneiss weathering very light tan and bearing tiny spheroidal garnets less than 1 mm in diameter. Interlayered metasediments include medium- to coarse-grained biotitic and muscovitic schist, fine- to medium-grained biotite-plagioclase-quartz gneiss, and tough, fine-grained calc-silicate rock*

The Straits Schist
TSu—*upper member. Coarse-grained, locally kyanite-bearing garnet-biotite-plagioclase-muscovite-quartz schist with abundant interlayered biotitic schist and feldspathic schist and gneiss. Amphibolite and/or quartzite common at the base*
TSl—*lower member. Uniform, medium- to coarse-grained, rusty-weathering garnet-plagioclase-biotite-muscovite-quartz schist, normally graphitic and ordinarily bearing kyanite or sillimanite or both*
F—*Large lens of feldspathic gneiss*

basal group

Collinsville Formation
Crudely laminated, medium- to coarse-grained feldspathic biotite gneiss locally bearing microcline augen. Finer grained garnet-mica schist and calc-silicate gneiss are locally important. Toward the top includes interlayered amphibolite, quartzite, calcite marble, schist, massive pegmatite and, locally, sulfide deposits

Newtown Gneiss
Chiefly medium-grained, poorly foliated to massive biotite-quartz-feldspar gneiss with a variable content of euhedral, large, Carlsbad-twinned microcline megacrysts. Associated minor metasediments include fine-grained, generally finely laminated garnet-biotite- plagioclase-quartz gneiss and fine- and medium-grained mica schist and gneiss locally bearing kyanite and/or sillimanite

P —Pegmatite
M —Marble
Am —Amphibolite

T Type or reference locality

Abandoned mine or quarry

Zone of hydrothermal alteration, silicification, and possible faulting

Contact, generally approximate or inferred. Distribution and density of bedding and foliation symbols is a measure of the reliability of any contact

SILLIMANITE ZONE
KYANITE ZONE
Isograd

Upright anticline
Upright syncline
Overturned anticline
Overturned syncline
Inverted anticline
Inverted syncline

FOLIATION OR SCHISTOSITY
vertical · 40 inclined · horizontal

BEDDING
vertical · 30 inclined · horizontal

AXIAL PLANE OF FOLD
vertical · 25 inclined

AXIS AND SYMMETRY OF FOLD
inclined: 30 symmetric · 20 dextrally asymmetric · 55 sinistrally asymmetric
horizontal: symmetric

AXIS AND SYMMETRY OF CRINKLING
inclined: 40 symmetric · 35 dextrally asymmetric · 30 sinistrally asymmetric
horizontal: symmetric

MINERAL LINEATION
14 inclined · horizontal

Base map by U.S. Geological Survey
Control by USGS, USC&GS, and Connecticut Geodetic Survey

Topography by photogrammetric methods from aerial photographs taken 1949. Field checked 1953. Revised from aerial photographs taken 1963. Field checked 1964

Polyconic projection. 1927 North American datum
10,000-foot grid based on Connecticut coordinate system

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UTM GRID AND 1964 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

CONNECTICUT
QUADRANGLE LOCATION

Williams & Heintz Map Corporation, Washington, D.C. 20027