STATE OF CONNECTICUT
GEOLOGICAL AND NATURAL HISTORY SURVEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

QUADRANGLE REPORT NO. 38
PLATE 1

Open Report

BEDROCK GEOLOGIC MAP OF THE SHARON QUADRANGLE, CONNECTICUT

By Robert M. Gates, 1971-1976

Base map by U.S. Geological Survey

Control by USGS, USC&GS, and Connecticut Geodetic Survey

Topography from aerial photographs by multiplex methods. Aerial photographs taken 1941 and 1944. Field check 1948. Revised 1956. Photorevised 1969.

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

UTM GRID AND 1969 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

CONNECTICUT
QUADRANGLE LOCATION

EXPLANATION

Rock Units

METAMORPHIC ROCKS

PALEOZOIC — ORDOVICIAN

O€e

Everett Formation
(If allochthonous, may be Cambrian or Ordovician)

O€e: Pale, greenish-gray, phyllite to fine-grained chlorite-muscovite-quartz schist; chloritoid is present locally. The coarser grained schists contain 1-3 mm porphyroblasts of almandine, staurolite, and plagioclase; only one or all three may be present in the schist. Where garnet and staurolite are abundant, as on Mt. Riga, Indian Mountain, and in the southwestern corner of the area, the rock is similar to the garnet-staurolite schist of the Walloomsac Formation (Owsg). Pitted weathered surfaces are characteristic where albite porphyroblasts are abundant. Dark-gray to black garnet-bearing schists are common near contact with Walloomsac Formation. Thin quartzite beds or lenses are rare.

Ows — Owsg — Owm

Walloomsac Formation

Owsg: Lustrous, silvery-gray to dark-gray muscovite-quartz schist with abundant 1-5 mm porphyroblasts of garnet and staurolite. Fine 1-3 mm seams of quartz characterize much of the garnet-staurolite schist.

Ows: Dark-gray to black, flaggy, granulitic muscovite-biotite-plagioclase-quartz schist commonly characterized by 1-5 mm clots or flakes of biotite.

Owm: Interlayered, heterogeneous assemblage of schistose calcitic marble, massive white calcitic marble, gray to black, rusty-weathering impure quartzites, and gray-weathering calcite-diopside-quartz granulite.

Unconformity

PALEOZOIC — CAMBRIAN AND ORDOVICIAN

O€se — O€sd — O€sc — O€sb — O€sa

Stockbridge Formation

O€se: Mottled, white, gray, or cream-colored, coarse-grained calcite marble with minor micaceous quartz-schist layers.

O€sd: Interlayered assemblage of rusty-weathering quartzite, sheared, light-gray, fine-grained dolomitic marble, brownish micaceous calcite marble, and calcitic dolomite marble with white quartz pods.

O€sc: Massive to sheared, iron-gray to white, fine-grained calcite-cemented dolomite marble; white quartz pods, rusty-weathering quartz streaks, and coarse dolomite crystals characterize some layers; massive, friable dolomite marble with white platy diopside crystals up to 2.5 cm.

O€sb: Gray to white, calcite-cementea, fine-grained dolomite marble with fine brownish schist partings; 25-75 cm beds of rusty-weathering calcitic, feldspathic quartzite and quartzite beds common; craggy-weathering surfaces.

O€sa (Not present in Sharon quadrangle): Massive white, fine- to coarse-grained dolomite marble with sparse tremolite, diopside, and phlogopite.

PALEOZOIC — CAMBRIAN

€d — €ds

Dalton-Cheshire Formation

€d: Mainly a white to pink, fine-grained, massive, vitreous quartzite in the lower part of section and interlayered assemblage of tan, gray, and white thin-bedded, very fine-grained feldspar-muscovite quartz granulites, micaceous quartzites, and feldspar-muscovite-quartz schists. White quartzite with conglomerate layers 1-3 meters thick predominates at base; bedding is shown in massive quartzite by thin muscovite partings. €ds assemblage of feldspathic mica quartzites and schists overlies the massive white quartzite; tourmaline megacrysts 1-5 mm in length characterize the muscovitic partings.

Unconformity

PRECAMBRIAN

pChu — pChb — pChp — pCha — pCht

Housatonic Highlands Massif

pChu: Housatonic Highlands undifferentiated. Gray to white, fine- to medium-grained granodioritic to granitic gneisses with ubiquitous protomylonitic seams.

pChb: Biotite granite gneiss. Light- to dark-gray, locally tan or reddish-tan, medium- to coarse-grained granitic gneiss characterized by discontinuous, streaky biotite folia; very heterogeneous in grain size and in the amount and distribution pattern of biotites.

pChp: Biotite-quartz-plagioclase paragneiss. A very thinly interlayered assemblage of very fine- to medium-grained feldspathic quartzites, quartz-plagioclase gneisses, and very minor 1-5 cm layers of mafic to amphibolitic gneisses.

pCha: Amphibolites and mafic gneisses. Dark-gray to black, fine- to medium-grained plagioclase-hornblende amphibolites and quartz-biotite-plagioclase-hornblende gneisses with subordinate microcline.

pCht: Trondhjemitic gneiss. A gray to white, commonly banded gray and white, fine- to medium-grained quartz-plagioclase gneiss with subordinate microcline and accessory epidote and sphene.

SYMBOLS

Outcrops
Single outcrop or closely spaced outcrop.

Contact
Short dashed where approximately located or concealed by surficial deposits

Thrust Fault
Dashed where approximately located; dotted where concealed; teeth on upper plate.

Steep Fault
Dashed where approximately located; U, upthrown side; D, downthrown side.

Inclined — Strike and dip of beds or compositional layering.

Inclined — Strike and dip of foliation

Vertical

Horizontal

Inclined — Strike and dip of axial plane of mesoscopic folds

Vertical

Horizontal

Inclined — Bearing and plunge of axes of mesoscopic folds or small crenulations on S surfaces. May be combined with planar symbols.

Horizontal

Note: All data recorded and plotted to nearest 5°.

Anticline

Syncline

Overturned anticline

Overturned syncline

MAJOR FOLD–Showing trace of axial surface and direction of plunge.

CHLORITOID

MINERAL ISOGRAD—Approximately located. Mineral marking higher metamorphic grade is shown in proper geographic position. Isograds based on mineral assemblages in pelitic rocks of Everett and Walloomsac Formations.

Abandoned bedrock quarry

Exotic blocks of carbonate

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