Newtown Rodgers Bedrock Compilation Sheet 2 (paper)

Map

NOTICE !

Bedrock quadrangle 1:24,000 scale compilation sheets for the Bedrock Geological Map of Connecticut, John Rodgers, 1985, Connecticut Geological and Natural History Survey, Department of Environmental Protection, Hartford, Connecticut, in Cooperation with the U.S. Geological Survey, 1:125,000 scale, 2 sheets. [minimum 116 paper quad compilations with mylar overlays constituting the master file set for geologic lines and units compiled to the State map, some quads have multiple sheets depicting iterations of mapping]. Compilations drafted by Nancy Davis, Craig Dietsch, and Nat Gibbons under the direction of John Rodgers.

Geologic unit designation table translates earlier map unit nomenclature to the units ultimately used in the State publication.

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

QUADRANGLE REPORT NO. 33
PLATE 1

BEDROCK GEOLOGY OF THE NEWTOWN QUADRANGLE, CONNECTICUT

By Rolfe S. Stanley, 1965-69 Assisted by Arthur C. Sarkisian, 1966;
William Acker 1967-68

Base map by U. S. Geological Survey
Control by USGS, USC&GS, and Connecticut Geodetic Survey
Topography by photogrammetric methods from aerial photographs taken 1949–1950. Field checked 1953. Revised from aerial photographs taken 1962. Field checked 1963 Photorevised 1972
Polyconic projection. 1927 North American datum
10,000-foot grid based on Connecticut coordinate system

UTM GRID AND 1972 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

QUADRANGLE LOCATION

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

EXPLANATION

ROCK UNITS

CENOZOIC — QUATERNARY

Qs — Surficial Deposits

Unconsolidated stratified and unstratified gravels, sands, and silts overlying till. Although present throughout the quadrangle, their abundance in the southern part precludes subdivision of the Newtown Gneiss.

MESOZOIC — UPPER TRIASSIC

Tu — *Undifferentiated sedimentary rocks, poorly exposed, similar to New Haven Arkose in lithology.*

Tkb — Basalt

Dark-brown, medium-grained basalt.

Tnh — New Haven Arkose

Red, fine- to coarse-grained arkosic sandstone with beds and lenses of conglomerate. Bedding varies from 30 cm to 12 m. Poorly exposed except along some streams. Contact with basalt is sharp.

PROFOUND UNCONFORMITY

SILURIAN AND DEVONIAN(?)

DSgf — Foliated granite, granite, aplitic pegmatite

White to cream-colored, medium-grained, feldspar-quartz-mica granite, largely well foliated, particularly in and near areas underlain by the Newtown Gneiss. Includes unfoliated medium-grained granite and pegmatite. Contact transects layering in all adjacent rocks. Foliation in granite is concordant to schistosity in Newtown Gneiss and adjacent metasedimentary rocks, as is shown by appropriate symbols.

Ob — Brookfield Gneiss

Dark-gray to black with white spots, medium- to coarse-grained biotite - plagioclase - hornblende-quartz gneiss with magnetite and chlorite, and, in some outcrops, sphene. Plagioclase is porphyroblastic. Schistosity poorly developed in center of body but well developed near margin and conformable to schistosity in surrounding rocks. Contact is sharp and transects mapped contact between OChII and OhlBg. Inclusions of OChII are limited but occur on all scales. Concentrates of finer grained hornblende and biotite are prominent near Kenan Road. Boundary of northern body is based on data in Danbury quadrangle.

On / Onm / Onb — Newtown Gneiss

Very light-tan to light-pink, medium-grained, poorly foliated to massive, feldspar-quartz-biotite gneiss with pink or white microcline porphyroblasts (less than ¼ cm in diameter). Contact with compositional layering in adjacent mafic rocks is discordant on all scales. Concordant contacts are also present. In Newtown, Southbury, and Long Hill quadrangles porphyroblastic gneiss is in contact with Hartland II, Hartland I, and Collinsville Formation.

On: Medium-gray to black plagioclase - hornblende - biotite gneiss and amphibolite. Plagioclase porphyroblasts present in some locales. Hornblende strongly aligned in most outcrops and variable in amount in the gneiss.

Onb: Light-gray, medium-grained plagioclase-quartz-biotite gneiss. Contact is gradational over adistance of 20 m and shows a change in grain relations with the porphyroblastic gneiss.

PALEOZOIC — MIDDLE ORDOVICIAN

Oca — Collinsville Formation

Aluminous member. Medium-to-coarse-grained quartz-plagioclase-biotite-muscovite schist with scattered porphyroblasts of garnet and kyanite. Distribution in Newtown quadrangle based on data from the Southbury quadrangle.

OhlBg / OhlBga / OhlGs / OhI — Hartland I.

Nonrusty-weathering quartz-plagioclase-biotite-muscovite gneiss and granulite with subordinate beds and laminae of mica schist. Pinstripe fabric in places. Rusty to partly-rusty weathering quartz-mica schist scattered discontinuously in the unit.

OhlGs: Light-brown to gray, slightly rusty to nonrusty, medium-grained muscovite-biotite-quartz-plagioclase schist with porphyroblasts of garnet or garnet-staurolite. Identical to main body of Hartland II. Contact with surrounding schist is gradational by compositional change over a distance of 25 m.

OhlBg: Medium- to dark-gray quartz-plagioclase-biotite gneiss with sillimanite and/or garnet. Muscovite very subordinate to rare. Biotite-rich schist present. Hard, greenish, calc-silicate gneiss rare. Rocks identical to main body of Hartland I are present just to west in Danbury quadrangle, 0.5 km south of Brookfield Center.

OhlBga: Black to dark-gray medium-grained amphibolite.

MIDDLE TO UPPER CAMBRIAN AND LOWER ORDOVICIAN

OChII / OChIIf / OChIIas / OChIIa / OChIIcs / OChIIs / OChIIa / OChIIcs / OChII — Hartland II.

Light-brown to gray, slightly rusty to nonrusty, medium-grained, slightly massive, bedded to nonbedded, muscovite-biotite-quartz-plagioclase schist with prominent porphyroblasts of garnet (2–10 mm) or garnet staurolite (5 mm) or garnet-staurolite and kyanite. Chlorite porphyroblasts transect schistosity and are common, paticularly in eastern part of quadrangle as are beds of light-nitnery muscovite-rich schist with garnet and/or staurolite porphyroblasts. Beds of plagioclase-quartz-mica gneiss and granulite are interbedded throughout the schist. Beds (less than 20 cm) of hard plagioclase-amphibole-quartz-garnet gneiss are sparcely present and indicated by symbol cc. Coticule markedby ~ symbol and dark quartzites by ++ symbol. Contact with overlying Hartland I is gradational by interbedding over a distance of 50 m.

OChII: Dark-gray, white streaked, nonrusty medium-grained feldspathic mica schist and gneiss with porphyroblats of staurolite 2–10 mm in diameter. Garnet less abundant. Distinguished from main body of Hartland II by higher percentage of plagioclae and biotite; microcline and magnetite are present in some localities Contact gradational by changing mineral percentages over a distance o,200 m.

OChIIas: Nonrusty, medium-grained mica-quatz-plagioclase schist with prominent clusters or porphyroblasts of kyanite and/or sillimanite which stand out on weathered surfaces. Coars-grained biotite-kyanite-plagioclase-quartz-chlorite schist marked by Ky s identical to a similarly marked locality immediately south of Berry Rad in the Roxbury quadrangle. Contact gradational over a distance of 10m and marked a decrease in aluminous clusters.

OChIIs: Nonrusty-weathering, medium-graine mica-plagioclase-quartz schist with porphyroblasts of staurolite in contrst with garnet porphyroblasts in surrounding schist.

OChIIcs: Light-colored, slightly rusty, fine-grined calc-silicate gneiss and granulite in beds 5–15 cm thick. Commony associated with rusty-weathering, fine-grained mica-quartz schist. Gradational with surrounding unit by change in composition.

OChIIa: Black to dark-gray, medium-grained enphibolite. Contact with surrounding unit is sharp and concordant to bdding. Commonly hornblende is preferentially oriented.

SYMBOLS

Bedrock exposures
Single outcrop or closely spaced outcrops observed during field mapping.

Contact
Solid where accurately located, long dashed where approximately located, short dashed where concealed and inferred.

U / D — Fault
Approximate location of fault based on offset of geologic contacts. U and D indicate relative up and down sense. Attitude unknown. Faults in the northeastern part of the quadrangle largely based on data from the Southbury quadrangle. Queried where questionable.

Fracture zone
Belt of fractured and altered rocks.

Isograd
Marks first appearance of sillimanite or potash feldspar. Ticks on the high-intensity side.

PLANAR FEATURES

Where symbols for planar or linear features are combined, their intersection marks approximately the point of intersection. The orientation of axes and axial surfaces for F2 and F3(?) folds are shown by combined symbols.

30 Inclined — Vertical
Strike and dip of bedding

60 Inclined — Vertical
Strike and dip of schistosity. Marked by parallel alignment of mica and other minerals. Bedding not apparent in outcrop.

45 Inclined — Vertical
Strike and dip of axial surface of F2 folds that fold bedding: schistosity is parallel to axial surface.

35 Inclined — Vertical
Strike and dip of axial surface of F3(?) folds and kink folds that fold schistosity and/or bedding. Axial surface is generally not marked by a cleavage.

45 Inclined — Vertical
Strike and dip of axial surface of minor fold that folds schistosity. Slip cleavage parallels axial surface.

67 Inclined — Vertical
Strike and dip of joints. Quartz filled joints are marked by a *o*.

LINEAR FEATURES

May be combined with any of the above planar features. Kink folds marked by a * adjacent to symbol.

30 Inclined — Horizontal
Trend and plunge of minor-fold axis.

20 Counterclockwise — 23 Clockwise
Asymmetrical minor fold axis showing sense of rotation.

30
Trend and plunge of crenulate fold axes.

30
Trend and plunge of mullion formed by a detached fold hinge.

30
Trend and plunge of an intersection lineation formed by bedding and schistosity.

40
Trend and plunge of quartz rods.

30 M
Trend and plunge of mineral lineation. *B* equals biotite, *H* equals hornblende, *M* equals mica.

20
Trend and plunge of basalt columns.

Trend and plunge of glacial grooves.

Miscellaneous

A Drag-fold locality (text reference).
A—A′ Line of profile section.
846 Sample locality for microprobe or modal analysis.

Reference localities

10 Foliated granite
9 Newtown Gneiss
8 Brookfield Gneiss
7 Hartland I
6 Hartland I, biotite gneiss
5 Hartland II
4 Hartland II, feldspathic schist
3 Hartland II, amphibolite
2 Hartland II, calc-silicate gneiss and granulite
1 Hartland II, aluminous schist