

SEDIMENTARY, VOLCANIC, METASEDIMENTARY, AND META-VOLCANIC ROCKS (Vmsar of Pleistocene glacial deposits and Holocene deposits not mapped.)

MESOZOIC TRIASSIC

- Tu Undifferentiated, covered sedimentary rocks and basalts; may include rocks of the Talcott Formation and the New Haven Arkose, and younger Triassic rocks.
- Tb exposed basalts.
- Tt Talcott Formation. Sedimentary rocks and basalts; six members tentatively identified.
 - t₁ arkosic conglomerates, sandstones, and siltstones; some carbonates.
 - t₂ pillowed and brecciated basalt.
 - t₃ pale reddish-brown and grayish-olive shale.
 - t₄ very dark gray columnar basalt, massive, medium-grained central portion.
 - t₅ pale reddish-brown to moderate reddish-orange arkosic sandstone and conglomerate; thin black-gray to grayish-red shale at the base.
 - t₆ thin amygdaloidal basalt; weathers to light brown vesicular and angular chips.
- tnh New Haven Arkose. Pale reddish-brown to moderate reddish-orange shales, siltstones, arkosic sandstones, and arkosic conglomerates; the base is not exposed.

Major unconformity after Acadian deformation

SILURO-DEVONIAN

- ts Straits Schist. Lustrous, muscovite coated foliation surfaces with quartz segregation pods, rusty weathering, homogeneous lithology, massive bedding. Medium- to coarse-grained quartz + muscovite + biotite + plagioclase + garnet + graphite ± sillimanite ± kyanite schist.
- Discontinuous lenses of amphibolite (a), quartzite (q), marble (m), and calcilicite (cs) along the boundary between the Straits Schist and the Collinsville Formation.

Unconformity between the Straits Schist or discontinuous lenses and the Collinsville Formation

PALEOZOIC CAMBRO-ORDOVICIAN

- Collinsville Formation. Aluminous member (ca) is heterogeneous; medium-grained nonrusty-weathering quartz + muscovite + biotite + plagioclase ± garnet ± sillimanite ± kyanite ± sillimanite schist and schistose gneiss, medium- to coarse-grained quartz + plagioclase + biotite + garnet + kyanite + muscovite gneiss, and muscovite + quartz + biotite + plagioclase schist. Muscovite/biotite > 1. Bristol Member (cb) is a uniform, nonrusty-weathering, medium-grained quartz + plagioclase + biotite ± muscovite ± garnet schist to schistose gneiss. Transitional member (cb-ca) contains all the above rocks of the Collinsville Formation.
- Hartland Unit I. Laminated member (hl) is a nonrusty-weathering, laminated, fine-grained quartz + biotite + plagioclase + muscovite schistose gneiss. The laminated member (hl) is a nonrusty-weathering, banded, fine- to medium-grained quartz + biotite + plagioclase + microcline + muscovite ± kyanite schistose gneiss. The kyanite-rich member (hik) is a partly rusty-weathering, fine-grained, knobby surfaced biotite + quartz + muscovite + kyanite ± sillimanite massive schist to schistose gneiss. The quartz-rich member (hlq) contains light-gray quartzite and quartz-rich gneiss.
- Hartland Unit II. Waterbury Formation.
 - The garnetiferous member of Hartland Unit II (hlg) is an extremely heterogeneous suite of well foliated, lustrous nonrusty-weathering medium- to coarse-grained quartz + biotite + plagioclase + muscovite ± staurolite ± garnet ± kyanite schist to schistose gneiss, biotite + plagioclase + quartz + garnet schist. Coarse porphyroblasts of garnet, kyanite, staurolite, biotite, and magnetite are common. The quartz-rich member (hlq) is medium-grained quartz + plagioclase + biotite + garnet gneiss.
 - The Waterbury Formation (w) is a rusty-weathering, fine-grained, contorted, massive, patchy to full textured biotite + quartz + kyanite + plagioclase ± muscovite ± microcline + garnet schist to schistose gneiss.

PALEOZOIC PLUTONIC ROCKS

K-Ar Dates

- 270 my - ss Syenite stock: microcline + arfvedsonite + apatite + biotite + rutile + sphene + calcite.
- 340 my - nm Lamprophyre: minette biotite + augite + orthoclase + apatite + sphene + calcite.

Deformation

- Acadian: Grandiorites or granodioritic gneisses that are rich in plagioclase and biotite and have little or no microcline or muscovite. Pegmatites: Quartz + albite + microcline or orthoclase + muscovite. Rare tourmaline and beryl accessories. Some pegmatites are relatively undeformed. Highly deformed pegmatites may have intruded during early Acadian deformation. Granites and granitic gneisses that vary from microcline rich and muscovite-rich plutons to biotite-rich plutons. Nonporphyritic. Some granites are relatively undeformed. Highly deformed granites may have intruded during early Acadian deformation.

Acadian

- Newtown Gneiss, granitic (n) to granodioritic (nm) gneiss characterized by large euhedral to subhedral microcline porphyroblasts.

Siluro-Devonian

- Some amphibolites may have been sills but no evidence to support a distinction between intrusive and extrusive mafic bodies exists. Possible Taconic plutonic events but there is no evidence to support this possibility.
- Ultramafic body: Phlogopite + chlorite + serpentine + talc.

Miscellaneous Rocks

- am amphibolite
- m marble
- q quartzite
- cs calcilicite
- x K-feldspar porphyroblasts outside of limit of Newtown Gneiss.

SYMBOLS

OUTCROPS

- Single outcrop or closely spaced outcrop.
- Contact: Long dashed where approximately located; short dashed where gradual or inferred.
- Boundary of area containing abundant granitic rocks.
- Fault, approximately located, showing dip where locally exposed. U, upthrown side; D, downthrown side, short dashed where inferred.
- Strike and dip of beds
- Strike and dip of foliation and parallel bedding
- Inclined Vertical Strike and dip of axial plane of fold
- Inclined Vertical Horizontal Strike and dip of foliation
- Anticline
- Syncline Showing trace of axial plane.

No attempt is made to define the degree of rotation from an original position; only the stratigraphic fold relationship is indicated. Circled number refers to generation of fold, explained in text.

LINEAR FEATURES

- Combined symbols show similar attitude of more than one linear feature
- Bearing and plunge of symmetrical fold axis
- Bearing and plunge of fold axis with clockwise asymmetry.
- Bearing and plunge of fold axis with counter-clockwise asymmetry.
- Bearing and plunge of late stage fold axis.
- Bearing and plunge of crinkle axis.
- Bearing and plunge of mineral lineation.

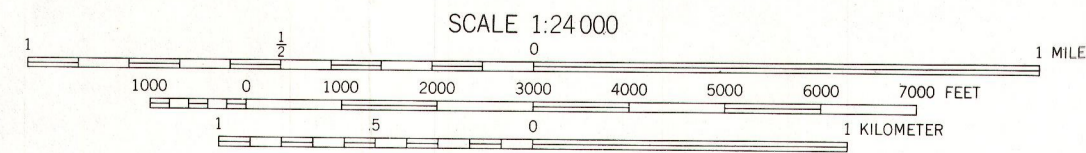
ECONOMIC FEATURES

- Dry hole
- Abandoned mine, pit, or quarry.
- Sand and gravel pit.
- Mineralized zone

BEDROCK GEOLOGY OF THE WEST PORTION OF THE SOUTHBURY QUADRANGLE, CONNECTICUT

By Robert B. Scott, 1967-1969 Assisted by William Raymond

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 1950. Field check 1953.
 Revisions from aerial photographs taken 1972.
 Polyconic projection, 1927 North American datum
 10,000-foot grid based on Connecticut coordinate system
 Reproduced with permission of Connecticut Geological and Natural History Survey.



CONTOUR INTERVAL 10 FEET
 DATUM IS MEAN SEA LEVEL

1974

