Essex Rodgers Bedrock Compilation Sheet (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.

This map set contains unpublished maps, cross- sections, and related information archived by the State Geological and Natural History Survey of Connecticut as part of the Survey Library Collection.

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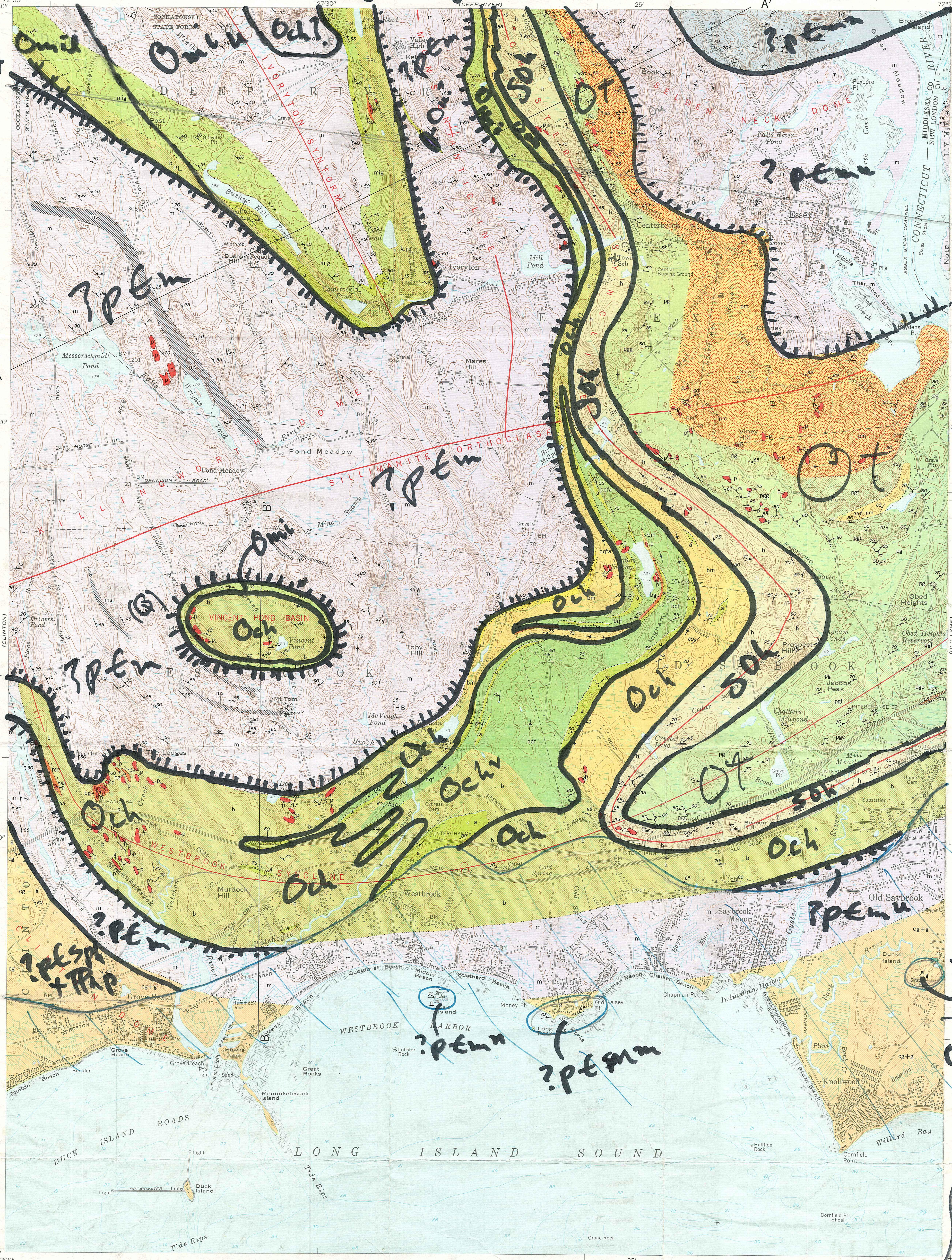
JL Interpretation Geology 13 July 1975

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

QUADRANGLE REPORT NO. 15
Plate 1



LEGEND

Pegmatite (p)

Coarse-grained pink or white granitic rocks consisting of quartz, sodic plagioclase, and microcline or orthoclase perthite and minor biotite, garnet, apatite, magnetite, and other minerals.

Hebron formation (h)

Greenish gray calc-silicate gneiss interbedded with brownish-gray quartz-biotite schist.

Brimfield formation (b, bqfa, bqf, bm, bg, bq, a)

b: *Undifferentiated Brimfield in zones of poor exposure. North of sillimanite-orthoclase isograd rust-stained biotite-muscovite schist predominates. South of isograd rust-stained biotite-orthoclase-sillimanite-garnet schist predominates. Symbol* b_{PL} *designates Pine Ledge belt of Brimfield.*

bm: *Coarse-grained migmatitic biotite-orthoclase-sillimanite-garnet schist.*

bg: *Pale-red-purple thin-bedded garnet-quartz rock.*

bqf: *Garnetiferous quartz-feldspar-biotite gneiss containing thin beds of quartzite, amphibolite, and schist.*

bqfa: *Anthophyllitic quartz-plagioclase-biotite gneiss.*

a: *Amphibolite and calc-silicate gneiss.*

bq: *Quartzite.*
+ *Small crosses indicate that rock contains nodules of quartz-sillimanite aggregate.*

Putnam gneiss (upper part) (pg, pgc, pgg, pgf, pm)

pm: *North of sillimanite-orthoclase isograd-gray, sparsely garnetiferous magnetite-bearing biotite-muscovite schist. South of sillimanite-orthoclase isograd-gray, magnetite-bearing biotite-sillimanite-orthoclase migmatitic schist.*

pg: *Undifferentiated quartz-biotite-feldspar gneisses including the following types of well bedded gneisses:* pgc: *Greenish gray calc-silicate gneiss and gray quartz-plagioclase gneiss;* pgg: *Garnetiferous quartz-biotite-plagioclase gneiss;* pgf: *Light gray to pink quartzo-feldspathic gneisses containing less than 10 percent mafic minerals. (Letter symbols on map indicate relative abundance of particular type of gneiss in the vicinity of the symbol.)*

+ *Small crosses indicate that rock contains nodules of quartz-sillimanite aggregate.*

Ultramafic rock (u)

Greenish-black coarse-grained granular rock consisting of green amphibole, diopside, olivine, and minor biotite.

Middletown formation (mig, a)

mig: *Rust-stained quartz-feldspar gneisses with abundant interbedded amphibolite. Quartz-feldspar gneisses display the following mineral assemblages: Quartz-plagioclase-anthophyllite-biotite, quartz-plagioclase-cummingtonite-biotite-magnetite, quartz-plagioclase-anthophyllite-cordierite-biotite, quartz-plagioclase-potassium feldspar-garnet. Lenses of nearly pure anthophyllite rock and bedded garnet-quartz rock are present. Quartz-feldspar gneiss containing nodules of intergrown quartz and sillimanite indicated by + symbol.*

a: *Amphibolite*

Monson gneiss (m, ms)

m: *Light-gray plagioclase-quartz-biotite-hornblende gneiss interbedded with amphibolite and pink alaskitic granite.*

ms: *Biotitic schist, quartzite, marble, and amphibolite representing undoubted metasedimentary or metavolcanic layers in Monson gneiss.*

New London granite gneiss (n)

Smooth-weathering equigranular quartz-plagioclase-microline gneiss containing rather fine-grained disseminated biotite and conspicuous magnetite. Typically interleaved with thin beds of amphibolite, alaskitic granite, hornblendic plagioclase gneiss, and rare quartzite.

Clinton granite gneiss and associated older gneisses (cg+g, g, cg)

cg: *Letter symbol indicates that pink biotitic granite gneiss is principal rock exposed in the immediate vicinity.*

g: *Letter symbol indicates that biotitic and hornblendic quartzo-feldspathic gneisses are principal rocks exposed; these are interleaved with the younger Clinton granite.*

cg+g: *Area of no outcrop in which Clinton granite gneiss interleaved with the older biotitic and hornblendic gneisses probably constitutes the bedrock.*

Contact
Dashed where approximately located; dotted where gradational or inferred.

PLANAR FEATURES

Inclined — Vertical

Strike and dip of foliation and compositional layering. Relict bedding normally is parallel to foliation.

MINOR FOLDS

Strike and dip of axial plane — Bearing and plunge of fold axis

Lineation

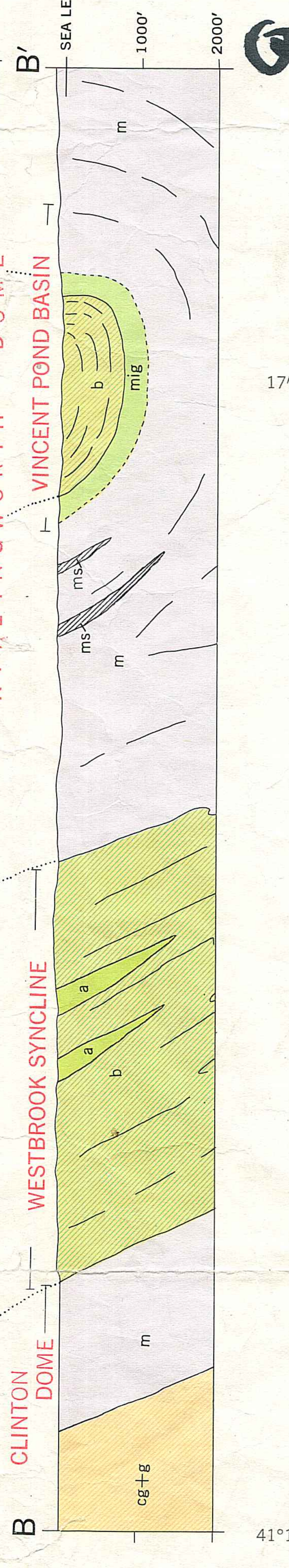
Letter symbol at tail of arrow indicates mineral that is responsible for lineation: S—sillimanite, B—biotite, H—hornblende, A—anthophyllite.

SILLIMANITE ORTHOCLASE

Metamorphic isograd

Sillimanite-orthoclase isograd mapped on the basis of assemblages present in pelitic schists in the Brimfield and Putnam. North of the isograd the assemblage quartz-muscovite-sillimanite is common; but the assemblage quartz-muscovite-sillimanite-orthoclase is also found. South of the isograd the assemblage quartz-sillimanite-orthoclase is present in pelitic schists and muscovite is not found.

Plp – Narragansett Pier granite
SOh – Hebron fm
Ot – Tatnic Hill fm.
Och – Collins Hill fm
Ochv – Volcanic member Collins Hill fm.
?pЄm – (circled)
Omi – Middletown fm
~~?pЄspl~~ ...
?pЄm – Monson group gneiss
?pЄmu – upper member of Monson
?pЄmm – ... member ... M...
?p...
~~Potter Hill~~ granite gneiss
(99)



Base map by U. S. Geological Survey
Control by USGS, USC&GS, and Connecticut Geodetic Survey
Topography by planetable surveys 1939. Revised 1958
Hydrography compiled from USC&GS charts 215 and 216 (1957)
Polyconic projection. 1927 North American datum
10,000-foot grid based on Connecticut coordinate system.

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State of Connecticut

GEOLOGIC MAP OF THE ESSEX QUADRANGLE, CONNECTICUT

Bedrock Geology by Lawrence Lundgren, Jr. in 1956, 1958, and 1959

13° TRUE NORTH MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1958

SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 4.5 FEET IN LONG ISLAND SOUND AND 2.9 FEET IN THE CONNECTICUT RIVER

CONNECTICUT
QUADRANGLE LOCATION

ESSEX, CONN
N4115—W7222.5/7.5