## Durham Rodgers Bedrock Compilation Sheet 4 (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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EXPLANATION

An almost structureless patchy windblown accumulation of silt and very fine grained sand as much as 30 inches thick that mantles the adjacent terrain east of

Alluvial-fan deposits Silt, sand, and, locally, pebble gravel, in part intermixed; locally includes a thin layer of organic debris. Very light gray to moderate reddish brown, in part somewhat darkened by humus. Stratification fair to poor: individual beds commonly a few to several inches thick, and several feet to several

Alluvium Sand and silt, or silt and clay: locally sand with some pebble gravel; in part intermixed; locally includes small amounts

> fair to good; individual eds as much as several inches thick and several yards wide. Silt and clay as much as 31/2 feet thick locally mantle pondbottom deposits of Durham Meadows. Transported and deposited by streams. Grades into swamp, alluvial-fan, and pond-bottom deposits, and commonly includes small thin unmapped swamp and alluvial-fan deposits. Maximum inferred thick ness less than 10 feet

> > Deltaic deposits

grained sand and some gravel. Moderate reddish

brown to yellowish white. Stratification fair to good;

individual beds as much as several inches thick and

a few to several tens of yards wide. Maximum thick-

Swamp deposits Concentrations of partly

decayed vegetal debris intermixed with differing amounts of silt, sand, and a little clay; patterned where known to be chifely vegetal material and, in part, at least 5 feet thick. Medium gray to black. Stratification absent to poor; individual beds a few to several inches thick, and a few to several yards wide. Commonly grades into alluvium. Mapped only where sampling indicates maximum thickness of deposit is greater than 2 feet. Inferred thickness generally less than 5 feet; maximum thickness may be 10 feet or



short dashed where inferred Approximate trace of principal faults Marks boundary between reddish-brown sedimentary formations interbedded with basalt lava flows on the west, and generally light-colored metamorphic rocks

Generalized strike and dip of beds

Commonly sand to sandy gravel, locally till; patterned where chiefly trash. Not mapped around buildings.

Contact

Dashed where approximately located;

Thickness commonly between 3-10 feet

Glacial striation Shows inferred direction of glacial flow. Point of arrow marks locality

Principal gap Shows approximate altitude, in feet, of present ground surface, which, acting as local baselevel, temporarily controlled glacial drainage and, locally, drainage routes. Queried where inferred

> Melt-water route Shows inferred direction of flow

\_\_\_\_\_?—Earliest group 198-N ?

\_\_\_\_\_?—Latest group Inferred glacial-pond margin Position inferred from approximate altitude of present ground surface of spillway that controlled pond

level. Margin as mapped follows contour of present topography despite minor erosion probable since pond existed; altitude of margin arbitrarily increases northward by about 4 feet per mile, representing the approximate rate of late-glaciation crustal rebound commonly inferred in New England, although neither this rate of rebound nor crustal rebound itself is proved in this quadrangle. Symbols group ponds by approximate relative age: number indicates altitude, in feet, of controlling spillway; N, spillway is located in adjacent quadrangle north; query indicates extent of margin indefinite

Local glacial-drainage divide Approximate topographic boundary between glacial Island Sound, subsequently north and northeast toward the Connecticut River. Not shown on and north of Totoket Mountain

Pollen-analysis locality<sup>1</sup> U.S. Geological Survey Paleobotanical Locality.

Age in years before present. Dated organic-rich layer at C overlies dated organic-rich layer at A

Til pit

B^R
Quarry
P, basalt
L, imestone
S, syndstone
R, perperted

Approximate grant size

imboli stricate distribution in decreasing order of abundance; generally observed in pits; for slumped pit faces, sympols represent the range or inferred average for mellowaged from they represent into

Och - Clerky

1, silt or silty

1, silt or silty

1, silt or silty

4, till or till-like

1, silt or silty

1, silt or s Ochv-Voleanie member 1

<sup>1</sup>Leopold, Estella B., 1955, Climate and vegetation changes during an interstadial period in southern New England Sterling Library, Yale University, Ph. D. Dissertation.

?pEm-/rum gneiss

Durham Meadows was not mapped.

Colluvium Chiefly rock particles and fragments ranging in size from sand to boulders: commonly includes some organic debris: black where unstable surface material consists mostly of sliderock fragments about 3 inches in diameter or larger. Generally medium to dark gray. Stratification commonly absent, crude where present. Moved chiefly by gravity. In part overlies a mixture of sliderock and finer debris of unknown

72°37′30″

yards wide. Generally grades into alluvium. Transported and deposited by streams. Maximum inferred thickness thickness. Maximum about 10 feet thickness about 25 feet

of organic debris. Very pale orange to moderate reddish brown, commonly somewhat darkened by humus. Stratification

Pond-bottom deposits Generally clay, silt, and very fine grained sand; locally fine- to coarse-grained sand. Moderate reddish brown to yellowish white. Stratification fair to excellent; d indicates clay and silt form individual beds 1/4 to 3 inches thick graded cyclically from silt or very fine grained sand at base to clay or silt at top; al/d, pond-bottom deposits overlain by as much as 31/2 feet of alluvial silt and clay. Mapped where maximum thickness of deposit is greater than 3 feet. Maximum known thickness about 5 feet

Valley-train deposits Medium-grained sand to pebble gravel, generally inter-Silt to fine-grained sand; in part medium- to coarsemixed. Stratification good to fair; individual beds as much as several inches thick and several tens of yards wide. Deposited by melt-water streams. Maximum known thickness about 15 feet

Glaciofluvial deposits

Chiefly sand and gravel, intermixed; contain scattered to numerous cobbles and boulders; locally may include beds of till-like material (flowtill) up to 5 feet thick and several tens of yards wide, small lenses of thinly layered fine-grained sand and silt marked by graded bedding, and lenses of cobble gravel. Moderately reddish brown west of the boundary fault, yellowish white east of it. Stratification poor to excellent; thick, and a few feet to several tens of yards wide. Characterized internally by great range of, and abrupt changes in, grain size, both vertically and horizontally; and locally by displaced and collapsed bedding. Distinguished chiefly by topographic form and manner of origin as noted for kinds of deposits shown below

Qcd, collapsed stratified drift deposits. Irregular topography and low to moderate relief, without distinctive land form; deposited by melt water on or adjacent to ice, and collapsed as ice melted. Queried where origin of adjacent part of deposit may be deltaic. Maximum known thickness about 18 feet Oic, ice-channel deposits. Ridgelike, commonly sinuous form; deposited by melt-water stream in ice crevasse or channel on, in, or under the ice. Maximum known thickness about 25 feet

Qk, kame deposits. Commonly knoll-like form; deposited by melt water on or against ice, or in hole in ice. Maximum inferred thickness about 25 feet Qkt, kame-terrace deposits. Terrace-like form, generally marked by longitudinal gradient; deposited by melt-water stream between ice and adjacent sloping ground. Maximum known thickness about

Qkd, kame-delta deposits. Commonly characterized externally by delta shape; marked internally by deltaic bedding with nearly horizontal relatively coarse-grained topset beds, steeply dipping relatively fine-grained foreset beds, and nearly horizontal finer grained bottomset beds; deposited by melt-water stream at glacial-pond margin, in part against ice. Maximum known thickness about 50 feet

Nonsorted nonstratified mixture of rock debris ranging from clay-size particles to boulders several feet in diameter; matrix silty, clayey, or sandy; includes small lenses and surface accumulations of sand and gravel. Moderate reddish brown west of the boundary fault, light greenish gray east of it. Stratification generally absent, crude where present. Chiefly deposited by ice as compact firm till ("hardpan"); broadly reflects preglacial surface, but locally marked by small streamlined forms of low relief; believed to have accumulated beneath the ice as ground moraine. Pattern indicates principal areas of somewhat less compact, less firm till inferred to contain a somewhat larger proportion of sand-size material; broadly reflects the preglacial surface also, but characterized by irregular topography of very low relief; believed to have accumulated on the ice as ablation moraine and to have been let down as the ice melted; may be present over much of the quadrangle, but if so is too thin to be readily distinguished from frost- and rootheaved subglacial till. Till thickness west of the boundary fault commonly 5 to 50 feet, with an estimated average of about 10 feet, and a possible maximum of 100 feet on Strawberry Hill; east of the boundary fault the average thickness is probably closer to 5 feet, with a maximum inferred thickness of about 35 feet; thickness greatest along valleys and in depressions, and least adjacent to bedrock expo-



Solid areas represent principal individual exposures or a group of several exposures where small and closely spaced. Pattern shows areas west of the fault boundary where scattered unmapped exposures are surrounded by till commonly less than 10 feet thick. East of the fault boundary, individual exposures are mapped only in areas of melt-water deposits; elsewhere unmapped exposures are very numerous, and commonly surrounded by less than

CONTOUR INTERVAL 10 FEET DATUM IS MEAN SEA LEVEL SURFICIAL GEOLOGIC MAP OF THE DURHAM QUADRANGLE MIDDLESEX AND NEW HAVEN COUNTIES, CONNECTICUT

> Howard E. Simpson 1968

DEPAREMENT OF THE INTERIOR STATES GEOLOGICAL SURVEY

MARTFORD 22 MI.

MIDDLETOWN MIDDLETOWN 42 MI.

MIDDLETO

For sale by U.S. Geological Survey, price \$1.00

1 1/2 CONNECTICUT QUADRANGLE LOCATION