U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GEOLOGICAL AND NATURAL HISTORY SURVEY

DISCUSSION OF SURFICIAL MATERIALS

The unconsolidated deposits overlying bedrock in Connecticut range from a few feet to several hundred feet in thickness. These earth materials significantly affect human development of the land. Most of the unconsolidated materials are deposits of continental glaciers that covered all of New England at least twice during the Pleistocene ice age. These glacial deposits are divided into two broad categories, glacial till and glacial stratified deposits. Till, the most widespread glacial deposit, was laid down directly by glacier ice and is characterized by a nonsorted matrix of sand, silt, and clay with variable amounts of stones and large boulders. Glacial meltwater deposits are concentrated in both small and large valleys and were laid down by glacial meltwater in streams and lakes in front of the retreating ice margin during deglaciation. These deposits are characterized by layers of well-sorted to poorly sorted gravel, sand, silt, and clay. Postglacial sediments, primarily floodplain alluvium and swamp deposits, make up a lesser proportion of the unconsolidated materials of Connecticut. Alluvium is largely reworked from glacial materials and has similar physical characteristics.

The distribution of surficial (unconsolidated) materials that lie between the land surface (below the pedogenic soil) and the bedrock surface is shown on this map to the extent that it is known or can be inferred. The cross sections (figs. 1 and 2) and the block diagram (fig. 3) illustrate the characteristic vertical distribution of glacial till, glacial meltwater deposits, and postglacial deposits encountered in Connecticut. The areal distribution of till and stratified deposits is related to the physiographic regions of the State: the eastern and western highlands and the central lowland (fig. 4.) Cross section ***A–A'*** (fig. 1) transects the central lowland and extends into the bordering eastern and western highlands. In highland areas, till is the major unconsolidated material, present as a discontinuous mantle of variable thickness over the bedrock surface. Till is thickest in drumlins and on the northwest slopes of hills (shaded till areas on map). Glacial meltwater deposits that average 10–40 feet in thickness overlie the till in small upland valleys and commonly in north-sloping pockets between bedrock hills. In the central lowland, especially in the north half, glacial stratified deposits are the predominant surficial materials. These deposits generally overlie till, however, well logs indicate that in some places till is not present and the stratified deposits lie directly on bedrock. The extensive places till is not present and the stratified deposits lie directly on bedrock. The extensive stratified deposits of the central lowland average 50–100 feet in thickness, and in the stratified deposits of the central lowland average 50–100 feet in thickness, and in the stratified deposits of the central lowland average 50–100 feet in thickness, and in the