Base from U.S. Geological Survey Billerica, Lowell, Tyngsboro and Westford quadrangles, Massachusetts

SCALE 1:31 680

1 ½ 0 1 MILE

1 0.5 0 1 KILOMETERS

Geology modified after unpublished surficial geologic manuscript maps of the Lowell and Tyngsboro 7½-minute quadrangles by R. H. Jahns and the Billerica 7½-minute quadrangles by R. H. Jahns, M. E. Willard, W. S. White, and L. W. Currier

EXPLANATION

QUATERNARY

Recent

Swamp deposits
Peat and muck interbedded in places with silt and fine sand. Do not yield ground water to wells

Pleistocene

Wisconsin Glaciation

Outwash and alluvium
Stratified sand and subordinate amounts of silt and gravel. Thickness ranges from 0 to about 98 feet. Yield small to large quantities of ground water to wells

Ice-contact deposits
Stratified sand and gravel with subordinate amounts of silt, clay, and stray boulders. Overlain at places by outwash and alluvium. Thickness ranges from 0 to about 140 feet. Yield small to large quantities of ground water

Till
Unstratified clay, silt, sand, gravel, and boulders. Overlies bedrock. Thickness ranges from 0 to about 175 feet but commonly is less than about 35 feet. Yields small quantities of ground water in its outcrop area

Contact
Dashed where approximately located

Well or test well ending in stratified deposits

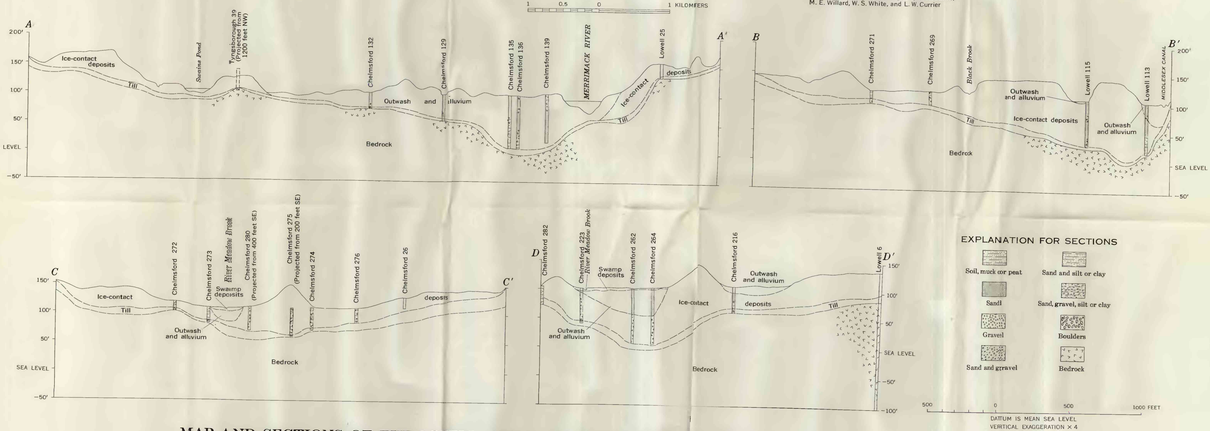
Well ending in till

Well or test well penetrating bedrock or ending at bedrock or refusal

Observation well, lithology shown by inner symbol

Spring
Figure is serial number assigned to each well, test hole, or spring. A separate series is used for each city or town

Note: The well symbols above may include additional notations as follows: two horizontal ticks[ ] adjacent to a symbol show that chemical analysis of the water is reported in table 1; four ticks[ ] indicate a test well. Lithology at bottom of test wells shown by symbols as above



EXPLANATION FOR SECTIONS

Soil, muck or peat
Sand and silt or clay
Sand
Sand, gravel, silt or clay
Gravel
Boulders
Sand and gravel
Bedrock

500 0 500 1000 FEET

DATUM IS MEAN SEA LEVEL
VERTICAL EXAGGERATION × 4

MAP AND SECTIONS OF THE LOWELL AREA, MASSACHUSETTS, SHOWING UNCONSOLIDATED DEPOSITS AND LOCATION OF SELECTED WELLS, TEST HOLES, AND SPRINGS

711-575 O - 64 (In pocket)