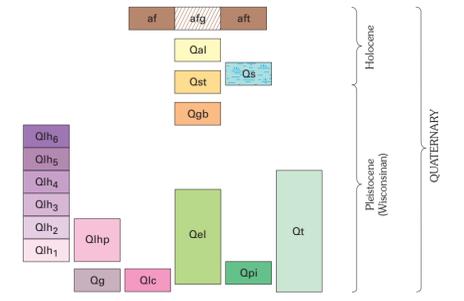


**CORRELATION OF MAP UNITS**



**DESCRIPTION OF MAP UNITS**

[A thin layer of windblown sand and silt less than 3 ft thick, primarily mixed with underlying glacial deposits, covers most of the map area, but is not shown.]

- af** Artificial fill—Earth-fill materials in road embankments, small dams, and made land. Many small bodies not shown. afg, graded area, some cut and fill; aft, solid waste disposal site
- Qal** Alluvium (Holocene)—Sand, silt, and minor gravel in flood plains along present-day streams and rivers. As much as 20 ft thick and underlain by adjacent deposits. Extent of alluvium indicates areas flooded in the past, which may be subject to further flooding
- Qs** Freshwater swamp and marsh deposits (Holocene)—Partially decomposed organic material (peat), silt, and sand underlying poorly drained areas. Generally 5 to 15 ft thick, but may be as much as 25 ft thick. Many swamps periodically flooded because of dams built by beavers
- Qst** Stream-terrace deposits (Holocene and Pleistocene)—Sand and pebble gravel, and minor silt on terraces cut into stratified deposits and till
- Qgb** Stratified glacial sand and gravel (Pleistocene)—Deposits of sand, silt, and pebble to boulder gravel, well sorted to poorly sorted and stratified, as much as 130 ft thick. Deposited by glacial meltwater streams from the retreating ice sheet. Most sand and gravel deposits in this quadrangle are graded to or deposited in large glacial lakes

**GLACIOLACUSTRINE DEPOSITS**

- Qlh6** Glacial Lake Hooksett deposits—Fluvial, deltaic, and lake-bottom gravel, sand, and silt deposits in or graded to glacial Lake Hooksett, whose level was controlled by a spillway just northeast of intersection of Interstate Routes 93 and 193 in Manchester North quadrangle to the north of Hooksett, N.H. (Carl Kotoff, written commun., 2000). Deposits form a series of coalescing deltas formed as ice retreated northward up valley of Soucook River. Actual ice-front positions not well defined because of later deposition of finer grained facies of younger sequences. Deposits are as much as 80 ft thick, typically with thick deposits of sand underlying topset gravels. Silt is found in some deep wells, but is exposed only at one place near southern edge of quadrangle. Qlh6 consists of glacial stream gravel graded to lake level. Qlh6 in Pine Island Brook valley consists of fine to coarse sand as much as 8 ft thick, probably derived from several sources but is clearly graded to lake level
- Qlh5**
- Qlh4**
- Qlh3**
- Qlh2**
- Qlh1**
- Qlh0**
- Qlc** Deposit at North Chichester—Gravel, sand, and silt probably deposited in an arm of glacial Lake Hooksett that extended up valley of Soucook River. Thickness is not known, but mapping to the south shows that less than 20 ft of gravel and sand overlies silt

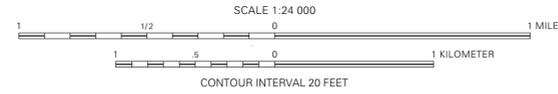
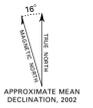
**GLACIAL STREAM DEPOSITS**

- Qel** Loudon esker deposit—Pebble to boulder gravel, poorly sorted and stratified, that forms esker in Soucook River valley. Formed incrementally during deposition of stratified units in valley. Partly obscured by younger glacial lake deposits
- Qpi** Pine Island Brook ice-channel filling—Poorly sorted and stratified pebble to boulder gravel and sand along southwest side of Pine Island Brook valley
- Qg** Unrelated deposits—Glacial stream deposits of sand and gravel whose relations to other deposits are not clear. Deposit along Perry Brook is ice-contact deposit of coarse gravel in branching ridges. Deposit north of North Chichester is a small esker not clearly related to Qlc
- Qt** Till (Pleistocene)—Nonsorted to poorly sorted, stratified mixture that ranges from clay-sized particles to large boulders but is predominantly silt to pebble sized. Matrix ranges from loose and sandy to compact and silty. Deposited directly by ice sheet with little or no modification by meltwater. In some places, mantles bedrock thinly (to about 10 ft) and discontinuously. Includes drumlins, which are streamlined hills of till as much as 80 ft thick which were shaped by moving ice. X, exposure of pre-Wisconsinan till
- +** Bedrock exposures—Ruled pattern indicates areas of numerous outcrops and discontinuous, thin (less than 3 m thick) surficial cover

**EXPLANATION OF MAP SYMBOLS**

- Contact
- Qlh2 — Approximate retreatal position of stagnant-ice margin during deposition of the designated unit
- Generalized maximum extent of glacial Lake Hooksett
- Long axis of drumlin—Generally parallel to inferred direction of ice movement. Not shown for drumlins that are irregular or nearly circular in shape because of possibility of partial control of the shape by subjacent bedrock or subsequent erosion
- Glacial grooves and striations—Observations at tip of arrow. Number is degrees east of south
- Meltwater channel
- Delta forest bed—Ticks point in dip direction
- △ Location of former ice-wedge feature—Permafrost feature probably formed near ice margin. Shows collapse from melting of nearby ice. Feature has been lost due to landscape grading
- 15' 16' 17' Well or test boring reported as ending in bedrock—Number is depth to bedrock, in feet. Altitude of bedrock surface above mean sea level, in feet, shown in parentheses. Open circle indicates depth of selected well or test boring that did not reach bedrock. Information from New Hampshire Department of Environmental Services, Concord, N.H.
- Pit in surficial materials—Extent of large pit shown by hachures
- Active
- Inactive
- 15' 16' 17' Surfacial materials in exposure—Letters indicate texture in decreasing order of abundance: si, silt; s, sand; p, pebble; c, cobble; b, boulder. Number indicates thickness, where known, in feet
- Texture of stratified deposits—Indicated to a depth of at least 5 ft
- Cobble and boulder gravel
- Cobble and pebble gravel with sand matrix
- Sand with minor pebble gravel
- Silt and clay

Base from U.S. Geological Survey, 1987  
10,000-foot grid ticks based on New Hampshire coordinate system  
1000-meter Universal Transverse Mercator grid ticks, zone 19  
1927 North American Datum  
To place on the predicted North American Datum of 1983, move the projection lines as shown by dashed corner ticks



**SURFICIAL GEOLOGIC MAP OF THE LOUDON QUADRANGLE, MERRIMACK AND BELKNAP COUNTIES, NEW HAMPSHIRE**

By  
Richard Goldsmith and David M. Sutphin

