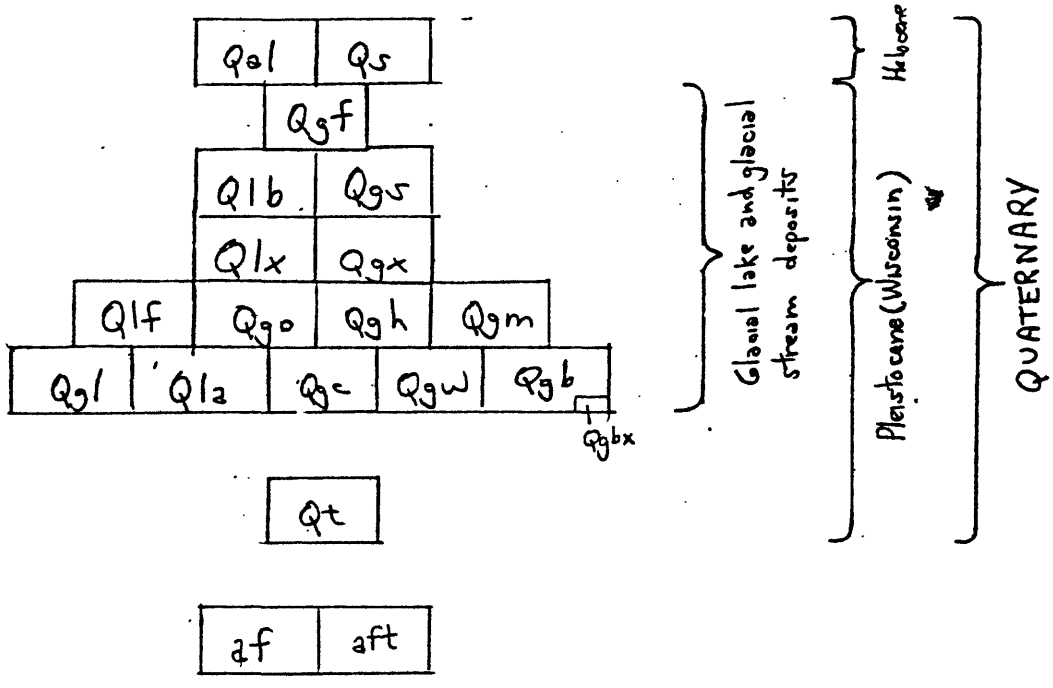
EAST BROOKFIELD, MASS.

CORRELATION OF MAP UNITS



U. S. Geological Survey
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DESCRIPTION OF MAP UNITS

POST-GLACIAL DEPOSITS

Yellowish-tan windblown silt and very fine sand, generally less than 2 ft thick, is irregularly spread over surficial deposits and has not been mapped separately

af — ARTIFICIAL FILL--Predominantly earth fill for highways, railroad beds, and other major construction. Material, transported and deposited and compacted by man, includes till, sand, gravel, and crushed rock

aft — ARTIFICIAL FILL--Predominantly trash fill. Includes sanitary landfills at Brookfield, East Brookfield, and Spencer and rubbish dump along Cedar Street in Sturbridge. Boundaries are approximate.

Qal — ALLUVIUM--Stream deposits composed of sand, gravel, and silt. Mapped only along Cady Brook in extreme southeast corner of quadrangle.

Qs — SWAMP DEPOSITS--Partly decomposed organic matter mixed with varying amounts of silt, sand, and gravel at edges of several swamps as revealed by shallow hole diggings

STRATIFIED GLACIAL DEPOSITS

Qgf — Glacial-stream deposits of mainly coarse sand and pebble gravel in Fivemile valley and Lake Lashaway area. Estimated thickness is probably greater than 30 m (100 ft)

Qgs — Glacial-stream deposits of mainly coarse sand and pebble gravel in Sevenmile and Cranberry valleys. Estimated thickness is probably greater than 30 m (100 ft) based on South Spencer well depth.

Qlb — Glacial-lake and subordinate glacial-stream deposits of Lake Brookfield. Most of deposit north of Quaboag Pond is pebble gravel and coarse sand and represents delta topset beds. Sand is dominant from Quaboag Pond southward to beyond Quacumquasit Pond and along Quaboag, Willow, and Coy valleys to the west and northwest. Lake bottom sediments of bluish-gray to olive greenish-gray clay and silty clay, approximately 9 m (30 ft) thick, make up the bluff along the northeast side of Quacumquasit Pond. Test drilling penetrated 41 m (135 ft) of stratified drift 500 m (1600 ft) north of the mouth of East Brookfield River at Quaboag Pond (Motts, 1974). Geophysical methods indicated a maximum drift thickness of 41 m (135 ft) just north of the road at the north end of Quacumquasit Pond. In Great Brook 27 m (90 ft) of glacial drift overlies the bedrock

Qlx — Glacial-lake(?) deposits of mostly sand, at 3 localities west of Quacumquasit Pond and south of Quaboag River. Estimated thickness is probably less than 10 m (33 ft).

Qgx — Glacial-stream deposits of mostly sand west of Trout Brook. Estimated thickness probably does not exceed 10 m (33 ft).

Qgm — Glacial-stream deposits of pebble to cobble gravel in the Cranberry Meadow Pond area. Estimated thickness probably does not exceed 15 m (50 ft).

Qgh — Glacial-stream deposits of coarse sand and gravel east of Holden Road. Estimated thickness probably does not exceed 23 m (75 ft)

Qgo — Glacial-stream deposits of sand and gravel in Wolf Swamp area. Estimated thickness probably does not exceed 15 m (50 ft)

Qlf — Glacial-lake deposits of sand near Fiskdale Road. Estimated thickness probably does not exceed 15 m (50 ft)

Qgb / Qgbx — Glacial-stream deposits of cobble to pebble gravel in Sibley Pond area. Older less coarse textured deposit (Qgbx) at higher elevation. Estimated thickness of Qgb is probably less than 15 m (50 ft)

Qgw — Glacial-stream and deltaic deposits of pebble gravel and sand of Walker Pond area. Estimated thickness probably exceeds 15 m (50 ft)

Qgc — Glacial-stream deposits of cobble and pebble gravel of Cedar Pond area. Estimated thickness probably exceeds 15 m (50 ft) in most places though bedrock was seen in recent excavation along east side of Cedar Pond 12 m (40 ft) below top of bluff

Qla — Glacial-lake deposits of sand and clay at Alum Pond. Estimated thickness probably does not exceed 10 m (33 ft)

Qgl — Glacial-stream deposits of sand and gravel of Long Pond area (Warren quadrangle). Estimated thickness in East Brookfield quadrangle is probably less than 8 m (27 ft)

NON-STRATIFIED GLACIAL DEPOSITS

Qt — TILL. Nonsorted to poorly sorted mixture of boulders, cobbles, pebbles, sand, silt, and clay in widely varying proportions. Deposited directly by ice. Assumed to underlie the stratified glacial deposits. Texture ranges from compact to loose and sandy. Average thickness estimated to be less than 6 m (20 ft); thickest till is in drumlin areas. Since exposures are minimal, till types are not delineated on the map except by materials symbols in specific localities.

BEDROCK

 BEDROCK OUTCROPS. Solid color represents rock exposures, may be partly covered by thin soil; ruled pattern indicates closely spaced outcrops where surficial deposits are thin.

Contact, approximately located to inferred

Generalized dip direction of delta foreset beds

Drumlin. Ice-shaped hill whose long axis parallels direction of glacier movement, composed predominantly or completely of till

Pit, showing lithology

Abandoned pit, showing lithology

Pit, hachured lines show approximate boundaries of large pit or area of multiple pits, showing lithology

Selected shallow dug hole, natural or trench exposure. Materials listed in decreasing order of abundance. Read hyphen as "to"

Melt-water channel. Glacial melt-water channel or spillway cut chiefly in till. Arrow indicates inferred direction of flow. Letter symbol indicates map unit controlled by spillway.

Well or test hole that did not reach bedrock. Number indicates thickness of unconsolidated material penetrated in feet.

Well or test hole that reached bedrock. Number indicated thickness of unconsolidated material penetrated in feet.

Site of seismic and resistivity survey. Number refers to thickness of unconsolidated material overlying bedrock.

Generalized sand and gravel distribution within stratified deposits. Indicated to a depth of at least 0.9 m (3 ft).

Mostly pebble to boulder gravel.

Mixed sand and gravel.

Mostly sand.

Mostly very fine sand, minor silt and clay.

Letter symbols indicate locations of good examples of morphologic features--e, esker or ice-crevasse feature (outlined); kt, kame terrace; kd, kame delta; ke, kettle

Good till exposure. ut, upper till; lt, lower till. Number refers to minimum till thickness.

Landslide

⊗ Older well site for town water supply, current limited usage

⊕ New well site for town water supply

Material classification--t, till; tu, upper till; tl, lower till; bg, boulder gravel; cg, cobble gravel; pg, pebble gravel; g, gravel; s, sand; vcs, very coarse sand; cs, coarse sand; ms, medium sand; fs, fine sand; vfs, very fine sand; st, silt; cl, clay; sc, silty clay

Sources of subsurface data--Massachusetts Dept. Public Works, Massachusetts Turnpike Authority, Lycott Environmental Research Company, Sturbridge, Mass.