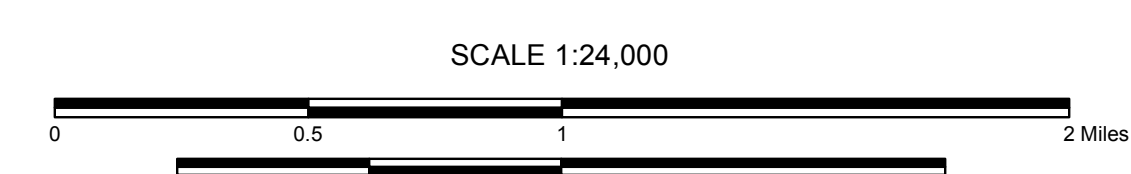


- ### EXPLANATION
- #### POSTGLACIAL DEPOSITS
- Qsh** Shoreline deposits (Holocene) - Sand and gravel in barrier spits, beaches, eolian dunes, washover fans, and some mud in fringing tidal flats. Beaches are present along most of the Narragansett Bay shoreline, but may be too narrow to depict on the map. First deposited when sea level rose to near present elevation in the late Holocene.
 - Qal** Alluvium (Holocene) - Sand, silt and some gravel in flood plains along present rivers and streams. Includes the present-day flood plain of the Pawtuxet River and may be as much as 10 ft (3 m) thick. May include small wetlands. Areal extent indicates possible flood zones.
 - Qst** Stream Terrace deposits (Pleistocene and Holocene) - Sand, gravel and some silt in terraces eroded into glacial meltwater deposits. May be as much as 10 ft (3 m) thick along the Pawtuxet River in West Warwick. Deposited as river downcutting began in the Late Pleistocene.
 - Qw** Wetland (Pleistocene and Holocene) - Peat, silt and some clay generally deposited in low-lying areas with high water table sand in protected coves. Includes freshwater marshes and forested swamps and saltwater marshes. Thickness range from 3 ft (1 m) to as much as 30 ft (9 m) in some kettle hole basins. Freshwater wetlands began developing in the late Pleistocene.
 - Qdu** Eolian dune deposits (Late Pleistocene to Early Holocene) - Wind-blown sand deposits formed on sandy delta plains after deglaciation, but before vegetation was widespread.
 - HF** Fill (Late Holocene) - Human altered terrain using fill, stratified material and quarried bedrock to elevate low areas. Includes landfills (East Greenwich) and dredged materials such as marinas around Greenwich Bay, Calf Pasture Point in North Kingstown and runway extension at T.F. Green Airport.
- #### GLACIAL MELTWATER DEPOSITS (PLEISTOCENE)
- QdRIV** Riverside deposits - Sand, gravel and some silt deposited as a delta into Glacial Lake Narragansett. Extends northward into the East Providence quadrangle.
 - QfGNC** Garden City deposits - Coarse-grained gravel and sand deposited as a large braided-river alluvial fan within the present Pocasset River drainage, and may have been a source of water and sediment for the Warwick Plains deposits. Extends northward into the Providence quadrangle.
 - QfMHB** Meshanicut Brook deposits - Coarse-grained gravel and sand deposited first in an isolated esker in a tunnel beneath the ice and then, as the ice front retreated northward, as a braided-river plain by meltwater that flowed down the Meshanicut drainage. The southern end of the deposit spread out as an alluvial fan as it entered the present Pawtuxet River valley. Extends northward into the Providence Quad.
 - QdWKP1** Warwick Plains deposits - Gravel, sand silt and some clay deposited across much of the northern half of the quadrangle. Includes: 1) coarse-gravel esker deposits just south of Warwick Pond (QdWKP1) that formed when the area was ice covered; 2) sand and gravel ice-marginal deposits near the village of Pontiac, north of the Pawtuxet River (QimWKP1); 3) sand and gravel fluvial deposits formed in the Pawtuxet River valley (QfWKP1, QfWKP2) and served as an early source for the Warwick Plains delta deposits (extends westward into the Crompton quadrangle); 4) gravel, sand, silt and clay of a very large delta system deposited into Glacial Lake Narragansett (QdWKP1). The delta system includes the area of T.F. Green airport, and extends northward into the Providence Quad.
 - QfHGB2** Hardig Brook deposits - Assortment of deposits that includes: 1) esker deposited beneath the ice (QeHGB2); 2) sand and gravel and some silt deposited as a delta in the upper Hardig Brook drainage (QdHGB1) as the ice front retreated northward down the drainage and then into the South Branch Pawtuxet River drainage (QdHGB3) in the Crompton quadrangle; 3) sand and gravel formed as an alluvial fan on the north side of the present brook (QfHGB2).
 - QfAPP** Apponaug deposits - Coarse gravel and sand deposited first as eskers beneath the ice in the Gorton Pond area (QeAPP), and then as two large alluvial fans centering in the village of Apponaug (QfAPP). Meltwater flowed down the Hardig Brook drainage and overlaid around Bald Hill through channels eroded into till.
 - QimWKN** Warwick Neck deposits - Sand and gravel deposited adjacent to an ice margin that existed in the Old Mill Brook area and to the east of Warwick Neck in present day Narragansett Bay. May include some silt in ponded drainage of Warwick Cove Brook.
 - QimEG** East Greenwich deposits - Coarse gravel and sand deposited by braided rivers flowing south between the till upland to the west (Drum Rock Hill) and glacier ice to the east (present day Greenwich Bay).
 - QdMGR2** Maskerchugg River deposits - Sand and gravel deposited in the Maskerchugg River, Entry Brook and part of the Hardig Brook watersheds. Includes: 1) a large alluvial fan that contains the southern part of the village of East Greenwich and extends up the Maskerchugg and Entry Brook valleys (QfMGR1); 2) small esker segments in the Hardig Brook valley (QeMGR) deposited when the area was ice covered; 3) a delta deposited in front of the ice as the margin retreated north up the upper Maskerchugg River valley and into the Hardig Brook drainage (QdMGR2).
 - QdPO1** Potowomut deposits - Sand and gravel and some silt deposited as deltas into Glacial Lake Narragansett in two stages. Stage 1 (QdPO1) formed when the margin was along the present day Potowomut River (continues south into the Wickford quadrangle); stage 2 (QdPO2) formed after the ice had retreated such that the margin was along the present Goddard State Park.
 - QePO** Quidnessett deposits - Sand and gravel deposited as an alluvial fan southward toward Allen Harbor and into the Wickford quadrangle.
 - QfHQ** Hunt - Quonset deposits - Coarse gravel and sand deposited as an alluvial plain in the Fry Brook drainage and as a braided-river plain south and east of the Hunt River (QfHQ). Continues south into the Wickford quadrangle. Includes some esker deposits (QeHQ) in the Hunt drainage.
 - QfMYB1** Mawney Brook deposits - Sand and gravel deposited in the Crompton quadrangle as a series of alluvial or lacustrine fans near Places Corner (QfMYB1) and then as the ice retreated northward, as a braided river that flowed south in the present Mawney Brook drainage (QfMYB2). Also includes esker segments (QeMYB) formed beneath the ice as drainage flowed off the till upland.
 - Qimu** Undifferentiated deposits - Sand and gravel deposited as small bodies (Qimu) adjacent to glacier ice and not able to be correlated with other deposits.
- #### GLACIAL DEPOSITS (PLEISTOCENE)
- Qt** Till Mantle - Poorly sorted mixture of gravel, sand, silt and some clay (diamiction) deposited in direct contact with glacier ice as debris flows on, or adjacent to, glacier ice (Qt). Forms a layer 3 - 10 ft (1-3 m) thick over the uplands and is usually also present beneath meltwater deposits in the lowlands. Prominent areas include Warwick neck, Drum Rock Hill, Spencer Hill and Bald Hill. Sandy, lighter color, looser till occurs in the western part of the Greenwich Bay watershed, whereas more silt, dark in color, more compact till occurs in the eastern part. Till variation reflects source-rock material, specifically granite and granitic gneiss in the west and phyllite and metamorphose sandstone in the east.
 - QemQUI** End Moraine - Landform composed of till with interstratified sand and gravel, deposited by, or modified by glacial processes, that marks the margin of the ice sheet during a specific time. The Quidnessett end moraine (QemQUI) is located near the Mount in North Kingstown and extends southeastward into the Wickford quadrangle.

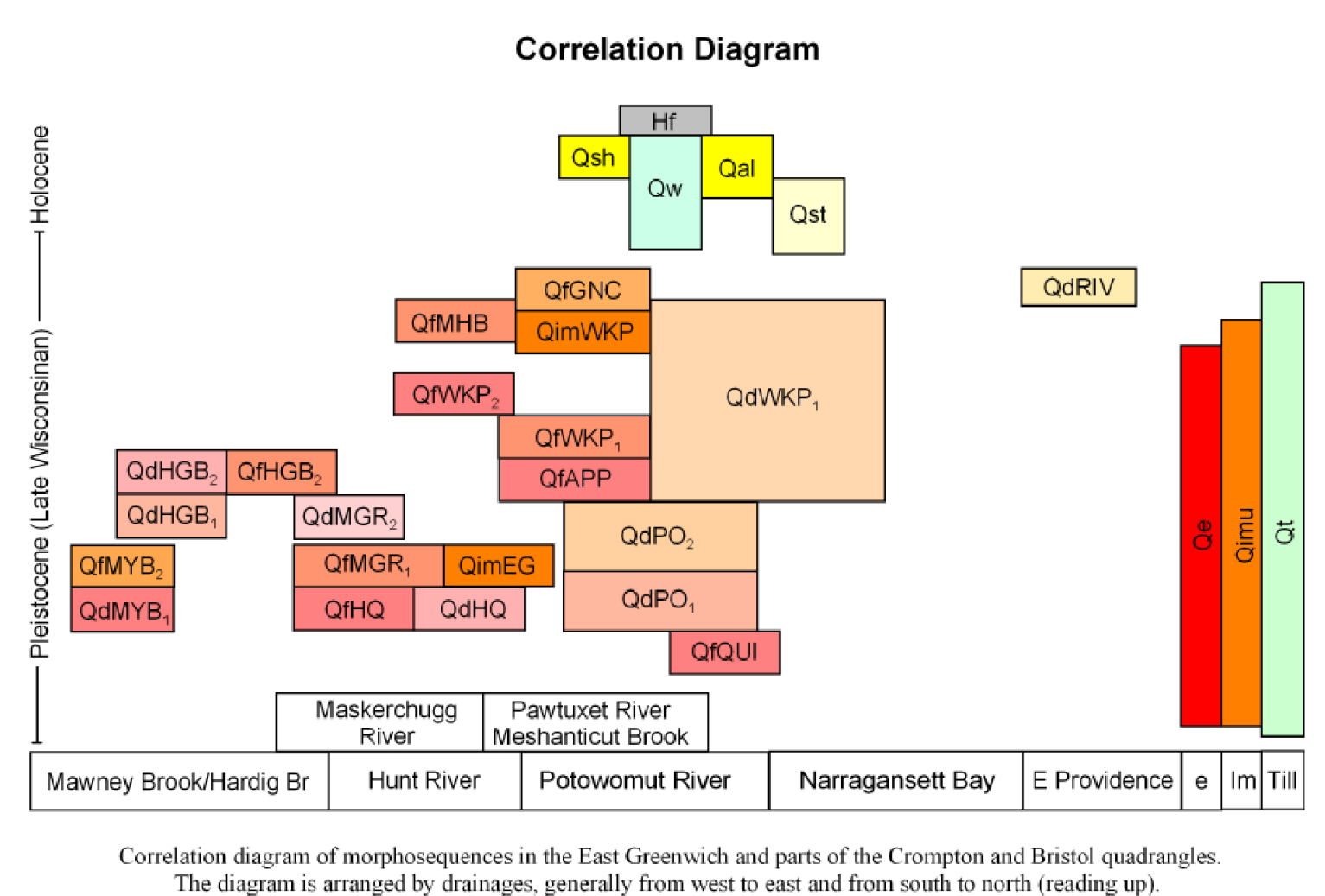
Crompton and East Greenwich Quadrangles produced by the U.S. Geological Survey 1939. Revised 1955. Topography by planetable surveys 1942. Revised 1957. Hydrography compiled from USC & GS charts 278 (1964)

Bristol Quadrangle produced by the U.S. Geological Survey 1939. Revised 1955. Topography by planetable surveys 1942. Revised 1957. Hydrography compiled from USC & GS charts 353 (1952)



Geology of the East Greenwich, Crompton and Bristol Quadrangles mapped by J. Hiram Smith (1955, 1956, 1959). Geology reinterpreted and renamed by J.C. Boothroyd (2003).

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET - DATUM IS MEAN LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 4.4 FEET



- #### GLACIAL DEPOSIT SYMBOLS
- Qd** - Delta, a landform deposited into a standing body of water; in this case a lake (lacustrine deposit). Includes fluvial (river) deposits, (often called topset beds), delta slope deposits (often called foreset beds) and lake/foor deposits (old name: bottom set beds).
 - Qf** - Fluvial (river) deposits formed by braided-river processes.
 - Qim** - Ice marginal deposits; those formed in direct contact with an ice margin by fluvial (braided river) processes or by deposition into small ponds (delta deposition). Often formed between glacier ice and valley wall. Collapsed landforms due to melting of buried ice are common.
 - Qe** - Esker, a sinuous ridge or ridge segments, parallel to regional glacier flow or to valley axes. Includes material deposited in subglacial tunnels, open walled ice channels or at the frontal margin of the ice.
- #### OTHER MAP SYMBOLS
- Es** - Esker Crest - Inferred flow direction of streams forming esker segments. V's point downstream
 - MC** - Meltwater Channel - Eroded primarily in till; shows direction of meltwater flow and sediment transported down slope to stratified deposits. A good example is in the upper reaches of Entry Brook on Drum Rock Hill
 - RM** - Retreatal Ice Margin Position - Marks a temporary stillstand of the front of the glacier. Often revealed by a steep, toward ice slope of stratified deposits ("head-of-outwash")
 - GA** - Graded Areas - Large area where construction projects have altered the terrain such that the original topography is obscured. An example is T.F. Green Airport
 - +** - Quadrangle Corners - Tic marks indicating the latitude/longitude of 7.5 minute quadrangle boundaries
 - GB** - Greenwich Bay Drainage Basin - Boundary of the Greenwich Bay watershed

QUATERNARY GEOLOGIC MAP of the EAST GREENWICH, and parts of the CROMPTON and BRISTOL QUADRANGLES, RHODE ISLAND

By
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2003 (Revised 2005)

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