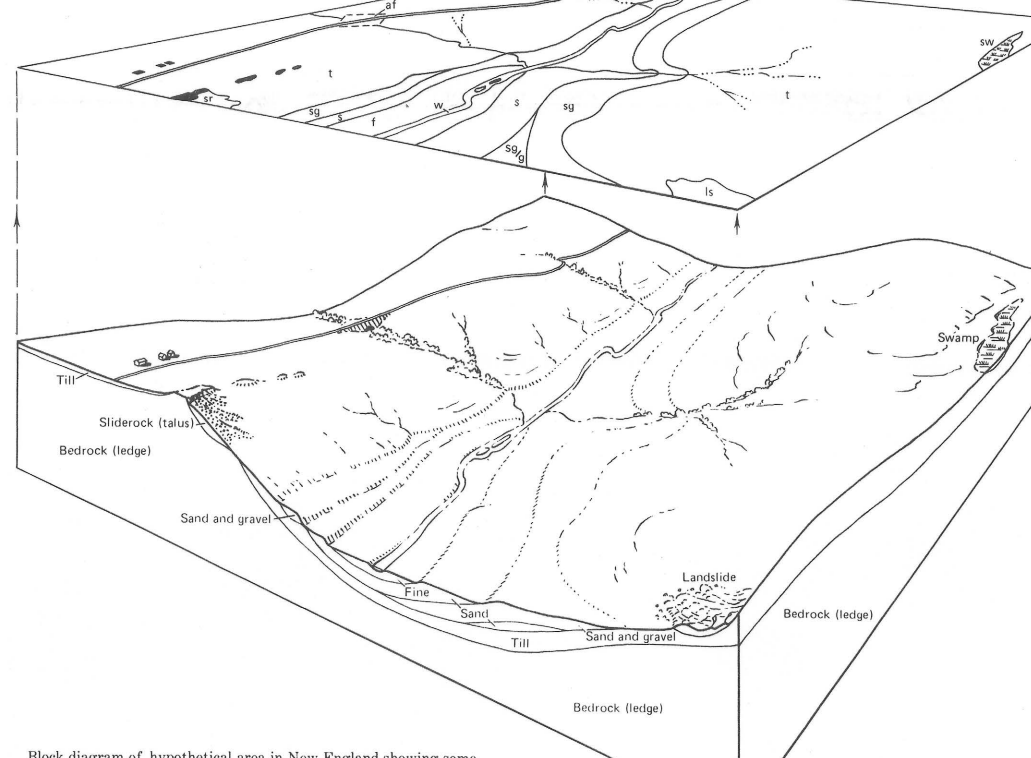


THIS MAP SHOULD NOT BE USED AS A SUBSTITUTE FOR ONSITE INVESTIGATION.

The map shows the distribution of particle sizes of the fill materials of a significant thickness (generally greater than 3 feet) underlying the surface of the soil layer. The soil layer, composed of sand, silt, and clay, is not depicted. The map is commonly 1 or 2 feet thick, not stepped, and is not necessarily only where it lies at or very near the land surface. Bedrock underlies the entire map area at various depths beneath the unconsolidated materials. The map is divided into three areas over large areas. In most parts of the quadrangle, it underlies other unconsolidated materials. *Stratified deposits* are composed of (a) sand, silt, and clay; (b) sand and gravel; (c) gravel layers and overlie till and (d) bedrock in much of the map area. Stratified deposits at the land surface often are underlain by bedrock. The map is not a cross-section and the thickness of the materials have been shown on the map where they are known or inferred to occur. The diagram below shows the vertical relationships encountered in unconsolidated materials in New England.



Most unconsolidated materials are mixtures of three particle size classes defined in the diagram below. Coarse particles (stones) include granules, pebbles, cobbles, and boulders. Medium particles include all sand sizes except very fine sand. Fine particles include very fine sand, silt, and clay.

PARTICLE-SIZE CLASSIFICATION USED IN THIS REPORT											
Modified from <i>Metacarb</i> (1922)											
Diameter of particles	10 256	2.5 64	.16 4	.08 2	.04 1	.02 .5	.01 .25	.005 .125	.0025 .048	.00015 .004	inches millimetre
	Boulders	Cobbles	Pebbles	Granules	Very coarse	Coarse	Medium	Fine	Very fine	Silt	Clay
	Gravel-sized particles					Sand-sized particles					
	COARSE					MEDIUM			FINE		

Materials mapping involves a visual estimate of particle-size distribution by a field geologist. Percentages of particle sizes, therefore, may differ somewhat in places from the limits defined for the map units below. Map units may also contain small lenses of material that differ in particle size from the main deposit.

¹1 foot equals 0.3048 meter.

EXPLANATION

TILL (HARDPAN) DEPOSITS

Till ranges from a crudely sorted, noncompact mixture of sand, silt, pebbles, cobbles, and boulders which may contain minor amounts of clay, to a non-sorted, compact mixture of silt and clay with some pebbles and cobbles. Where the two tills occur together, the loose sandy till always lies atop the compact silt till, and the bulk of many smooth, elongate hills (drumlins), even where the sandy till lies exposed at the surface. Some tills may contain very large boulders. Till is present at depth beneath most other unconsolidated materials in the map area.

The kind of till found in the New Haven and Woodmont quadrangles closely resembles the type of bedrock which either directly underlies it or occurs within a short distance of it. The till has a color ranging from light-olive gray to dusky yellow or brownish gray, and contains small amounts of organic matter. It contains large amounts of silt and stone. In the southeast corner of the map (south of the airport and on Ar Avenue), the till contains a larger fraction of medium-sized particles. Over most of the remainder of the map area, the till ranges from deep-reddish-brown to black, and contains a large amount of coarse pebbles and fine particles to primarily fine particles. Close to the high-standing ridges (East Rock, Mill Rock, Pine Rock, and West Hill) the till is dark-colored and contains a large amount of coarse pebbles. Dark-colored patches of basalt from these ridges. Within the outcrop area of these major ridges shown on the map, an extremely thin layer of till is present.

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SAND AND GRAVEL DEPOSITS

Particle sizes range from 100 percent coarse particles to 25 percent coarse particles and 75 percent medium particles. So deposits may contain minor amounts of fine particles. Material can occur as:

- 1) thin layers of well to poorly sorted sand interbedded with thin layers of well to poorly sorted gravel.
- 2) distinct pockets of well to poorly sorted sand, gravel, and sand and gravel.
- 3) poorly sorted, mixed layers of sand and gravel.
- 4) poorly sorted gravel deposits in which sizes range from 100 percent coarse particles to 50 percent coarse sand to 50 percent sand.
- 5) thick layers of well to poorly sorted gravel or sand and gravel interbedded with thin layers of well to poorly sorted sand.

Reddish-brown flowtill, a material which looks like the reddish-brown variety of till described in the previous unit, very rarely overlies sand and gravel deposits in the New Haven and Woodmont quadrangles.

sg_s/s
 SAND AND GRAVEL OVERLYING SAND DEPOSITS
 Areas where sand and gravel, commonly less than 15 feet thick, overlie thicker deposits of sand. The descriptions for sand and gravel as well as sand are given above

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VERY FINE SAND, SILT, AND CLAY DEPOSITS

Sizes range from 50 percent fine and 50 percent medium particles to 100 percent fine particles. The deposits may contain scattered coarse particles - the New Haven and Woodmont quadrangles, these fine deposits occur mostly as beds of layers of silt and clay. In addition to the units shown on the map, a very large thick body of clay and silt underlies most swamps near the Quinnipiac River as well as the river channel itself

		LOGS	
<div> <div>a</div> <div>ALLUVIAL DEPOSITS</div> <p>Some layers consist wholly of coarse, medium, or fine particles; other layers are poorly sorted mixtures of two or all three particle-size classes. Particle sizes vary greatly both laterally and vertically. Organic matter occurs in differing amounts within deposits; in places the organic content may approach that found in swamp deposits (defined below). Areas mapped as alluvium may be subject to periodic flooding</p> </div>		<div> <div>† FIELD OBSERVATIONS (AUGER HOLES; BANK SCRAPPINGS; EXCAVATIONS)</div> </div>	
Number	Depth, in feet ¹	Thickness, in feet ¹	Description
7	0-3	3	ms, cs, vcs, g, p; pink to brn
	3-23	20	ms-cs; red to pink
	0-3	3	flowtill; red
8	3-4	1	cs-vcs, g, p; red to pink
	0-1	1	artificial fill
9	1-7	6	fs; wh to yell
	0-4	4	artificial fill
10	4-16	12	ms; red
	0-7	7	ms; red
11	0-3	3	ms and cs, tr p; brn
	3-3 1/2	1/2	p and g
12	3 1/2-4 1/2	1	p, g, and cs; brn
	0-2	2	artificial fill
13	2-8	6	ms; red-brn to pink
	0-2	2	soil and rocks
14	2-3	1	c, p, and ms; brn
	3-8	5	ms and cs, sm p, g; yell
15	0-2 1/2	2 1/2	soil; blk to brn
	2 1/2-4 1/2	2	ms, cs, vcs, g, p; brn
16	4 1/2-5 1/2	1	fs-ms; pink to brn
	0-1/2	1/2	soil
17	1/2-1 1/2	1	ms and sl; brn
	1 1/2-2 1/2	1	ms; brn
18	2 1/2-3 1/2	1	ms and cs; pink
	3 1/2-4 1/2	1	cs; brn
19	0-3 1/2	3 1/2	c and p, tr b, g, vcs
	0-10	10	c, p, vcs, g; brn
20	0-1	1	asphalt
	1-5	4	sand fill
21	5-8	3	b, c, lit ms; red
	8-10	2	ms-fs; red
22	0-2 1/2	2 1/2	artificial fill
	2 1/2-3 1/2	1	ms-cs; brn
23	3 1/2-4 1/2	1	fs; red
	4 1/2-5	1 1/2	ms; wh to pink to brn
24	5 1/2-6 1/2	1 1/2	ms; wh to pink to brn
	6 1/2-7 1/2	1/2	ms; wh to pink to brn
25	0-2	2	artificial fill
	2-5	3	p and c, sm cs-vcs; brn
26	5-8 1/2	3 1/2	fs; red
	0-15	15	fs and ms, tr g, p; red
27	0-1	1	ms
	1-2 1/2	1 1/2	ms-cs; brn to red
28	2 1/2-4	1	ms-cs; wh to pink
	4-5	1	cs, sm g; wh to pink to brn
29	0-1 1/2	1 1/2	soil; blk; org
	1 1/2-2 1/2	1 1/2	ms; pink to wh
30	0-3	3	artificial fill
	3-7	4	ms and cs, sm p, g; brn
31	7-12	5	ms and cs; pink to brn
	0-4	4	ms-cs; wh to lit brn
32	0-3	3	c and p
	0-6	6	ms, sm fs, tr p; lgt gr to wh
33	0-2	2	ms, sm cs; wh
	2-3	-	rock (chlorite schist)
34	0-1 1/2	1 1/2	ms, sm cs; pink
	1 1/2-2 1/2	1	ms; wh
35	2 1/2-3	-	rock (chlorite schist)

Locations of selected wells and testholes		X FIELD OBSERVATIONS (PITS)			
12a	Water well	Number	Depth, in feet ¹	Thickness, in feet ¹	Description
14a	Testhole	1	0-1	1	c, p, and, g, lit b
			1-3	2	ms; red to dk pink
			3-22	19	c, p, g, sm cs, ms, pink to wh

Numbers correspond by town to those on file with the U.S. Geological Survey, Water Resources Division, Hartford, Connecticut. Logs were published by Mazzaferro (1973)

ABBREVIATIONS			6-10 10-30	40	cl (varied); gr cl (varied); brn to dk red
Texture	Color	Percent			
b, boulders	brn, brown	and, 33-50 percent of	3	0-2	ms; pink
c, cobbles	red, red	sample		2-5	3; brn; and ms, g;
p, pebbles	blk, black	sm, some, 20-33 percent			pink to brn
tr, granules	gray	of sample		5-7	c and cs
vs, very coarse sand	yel, yellow	lit, little, 10-20		2	ms; pink
cs, coarse sand	orn, orange	percent of sample		7-8	c and cs
ms, medium sand	wh, white	tr, trace, 0-10 per-		8-10	cs-ms, sm p, g
fs, fine sand	pink, pink	cent of sample		10-15	ms; pink
vs, very fine sand	tr, light		4	0-5	ms-cs, p, c, tr b; pink

NOTE: Subsequent field checking indicates that this map
supersedes Brown (1974) where discrepancies occur along
map border.

LOGS			
* FIELD OBSERVATIONS (AUGER HOLES; BANK SCRAPINGS; EXCAVATIONS)			
Number	Depth, in feet ¹	Thickness, in feet ¹	Description
1	0-1	1	ms; orn-yel
	1-2	1	ms-fs; wh; sm brn; brn
	2-6	4	ms and cs, sm p
2	0-2	2	ms and cs; brn
	2-5	3	cs, vcs, and g; wh to brn, pink
3	0-1	1	soil and rocks
	1-6	5	c, p, and g, tr lb: red- brn
	6-9	3	cs, vcs, and g, tr p; pink-wh
4	0-1	1	artificial fill
	1-2	1	ms and p; brn
	2-2 1/2	1/2	cs and vcs, sm p, g; brn
	2 1/2-3 1/2	1	ms; brn
	3 1/2-5	1 1/2	ms-fs, sm p; wh to brn
	5-5 1/2	1/2	ms, g, and p
	5 1/2-6	1/2	ms; brn
5	0-2 1/2	2 1/2	artificial fill
	2 1/2-4 1/2	2	c, p, and g, sm cs; brn-wh
	4 1/2-7	2 1/2	vcs; brn
6	0-1	1	ms-cs; blk; org
	1-1 1/2	1/2	ms; yel
	1 1/2-2	1/2	ms; wh
	2-5	3	ms-fs, tr p; wh to brn

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MAP SHOWING UNCONSOLIDATED MATERIALS, NEW HAVEN AND WOODMONT QUADRANGLES, CONNECTICUT

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