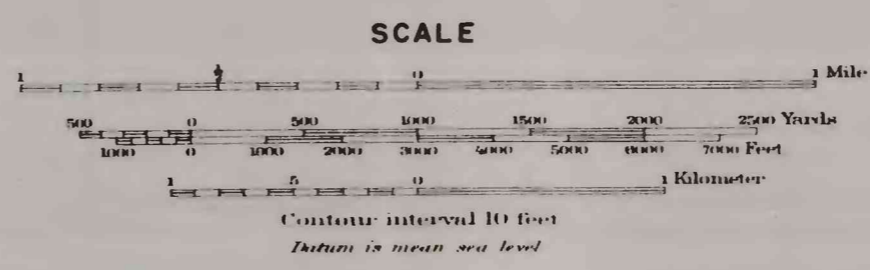
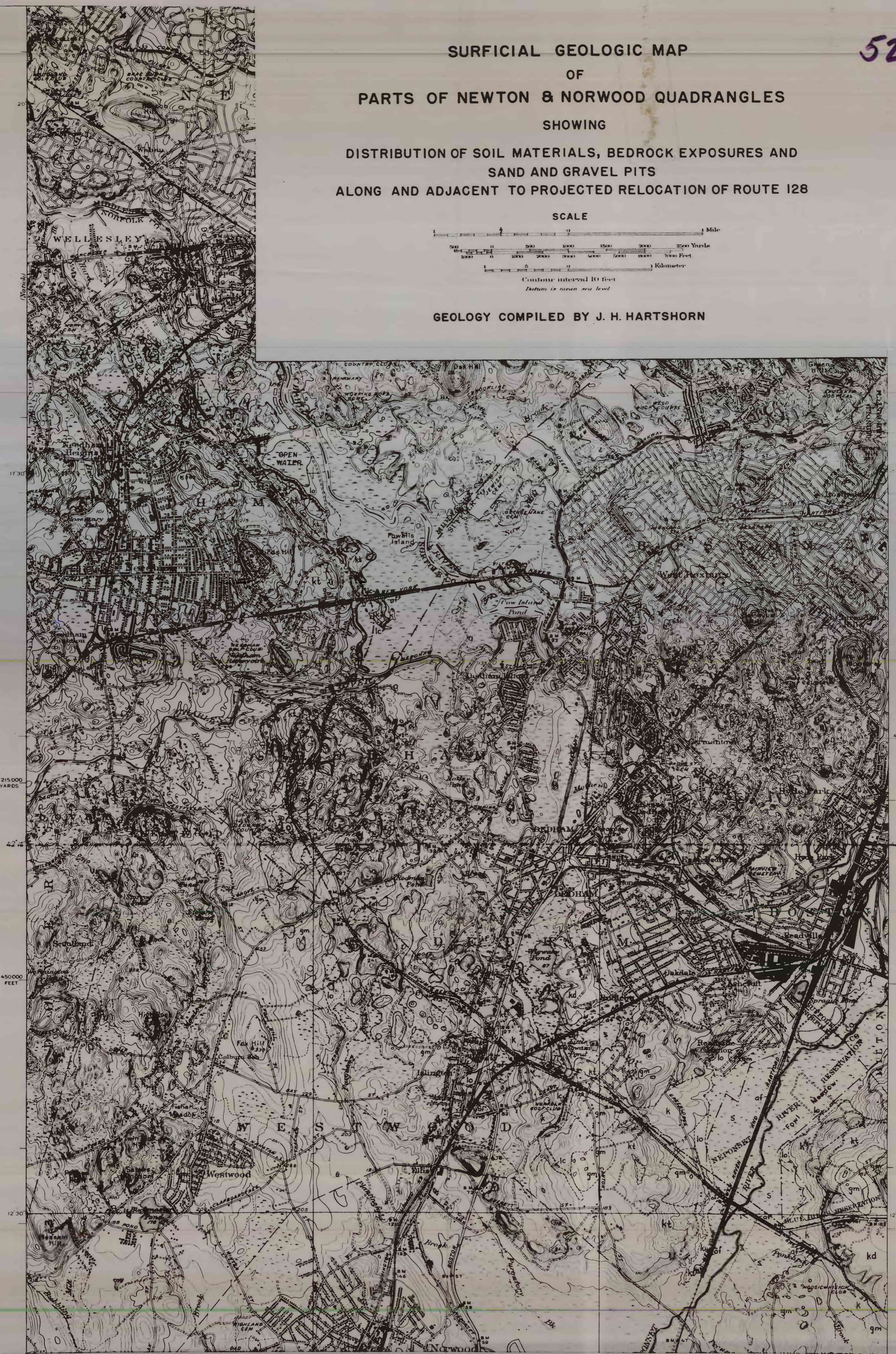


SURFICIAL GEOLOGIC MAP
OF
PARTS OF NEWTON & NORWOOD QUADRANGLES
SHOWING
DISTRIBUTION OF SOIL MATERIALS, BEDROCK EXPOSURES AND
SAND AND GRAVEL PITS
ALONG AND ADJACENT TO PROJECTED RELOCATION OF ROUTE 128



GEOLOGY COMPILED BY J. H. HARTSHORN



EXPLANATION

Generally unsuitable as source of granular material	 SAND AND SILT; UNDIFFERENTIATED	Possible sources of material for fill	 TILL
	lo - low outwash; fine grained outwash sands and silts at low levels.		gm - ground moraine, a heterogeneous deposit of mixed boulders, cobbles, pebbles, sand, and clay; known locally as "hardpan"; in many places covered by a few inches to a few feet of fine-textured wind-blown sand.
Chief source of finer grained granular material	 SAND PREDOMINANT		 BEDROCK DOMINANT
	op - outwash; medium to fine grained sands at low levels. kt - kame terrace; moderately flat topped area of coarse to fine sand; few beds of gravel, especially at top. k - kame and kame field; irregular hillocks or groups of hillocks; composed mostly of sand, but with a few beds of gravel.		br - dark red shows areas where surface is completely bedrock; light red shows areas where till or gravel mantles the surface, with bedrock discontinuously exposed or buried under thin surficial material, commonly less than 5 feet thick.
Granular material of variable texture and thickness	 GRAVEL AND SAND UNDIFFERENTIATED		 SWAMP
	kd - kame delta; flat topped deltaic deposit; gravel in horizontal topset beds; foreset beds of sand and gravel. kt - flat to greatly pitted and eroded surface underlain by coarse to medium gravels and sands. k - kame and kame field; irregular hillocks or groups of hillocks; diagonal ruling indicates areas worked over by man, in which original topographic features are not now recognizable.		s - swamps are composed of peat and silty to sandy peat at the surface and are underlain by clay, silt, sand, gravel, or till.
Chief sources of coarse granular material	 GRAVEL OF COARSE TO MEDIUM TEXTURE PREDOMINANT		 FILL (af)
	ic - ice-channel filling, an elongated ridge (esker) with steep sides; composed mostly of coarse to medium gravels, with numerous cobbles and boulders. kt - kame terrace; moderately flat to pitted deposit of mixed gravels and sands, but mostly coarse gravel. k - kame; a series of hillocks dominantly coarse to medium gravel; brown stripes indicate areas of interbedded till.		approximate unit boundary probable unit boundary centerline of projected highway or lane; dotted when it coincides with present road x gravel pits active and inactive
	 GRAVEL OF COARSE TO MEDIUM TEXTURE PREDOMINANT, BUT WITH INTERBEDDED TILL		
	kt - kame terrace; moderately flat to rolling top; composed of dominantly cobble gravel, with lenses and beds of hard, clayey brown till.		

This map has not been edited for geologic names or for geologic map standards