



LIST OF MAP UNITS

be	BEACH AND DUNE SAND	kg	ICE-CONTACT GRAVEL, SAND, AND SILT
lm	LAKE CLAY AND SILT (UNDER LAKE ONTARIO)	ke	KAME MORaine GRAVEL, SAND, AND SILT
ls	LAKE SAND AND GRAVEL (UNDER LAKE ONTARIO)	kd	KAME DELTA GRAVEL, SAND, AND SILT
hps	SALINE OR ESTUARINE MARSH DEPOSIT	gg	OUTWASH GRAVEL, SAND, AND SILT
al	ALLUVIUM	mc	MARINE CLAY AND SILT
asn	ALLUVIAL SAND	el	LOESS
ed	DUNE SAND	lca	LAKE SILT AND CLAY
lc	LAKE SILT AND CLAY (UNDER LAKE ONTARIO)	lcr	DISCONTINUOUS LAKE SILT AND CLAY
hp	PEAT	lsa	LAKE SAND AND GRAVEL
alk	ALLUVIAL GRAVEL, SAND, SILT, AND CLAY	lsr	DISCONTINUOUS LAKE SAND AND GRAVEL
hs	SWAMP DEPOSIT	lsb	LAKE, ICE-CONTACT, AND OUTWASH DEPOSITS
cbb	BOULDERY COLLUVIUM AND ROCK WASTE	lds	LAKE DELTA SAND AND GRAVEL
cbe	METARHYOLITE-BOULDER LOAMY COLLUVIUM	nlc	LOAMY SOLIFLUCTION DEPOSITS AND TILL
cbj	BOULDERY LOAMY COLLUVIUM	txa	SANDY TO CLAYEY TILL
clf	ACID SHALE-CHIP CLAY LOAM COLLUVIUM	kea	KAME MORaine GRAVEL, SAND, AND SILT
clj	ACID SHALE-CHIP CLAY LOAM COLLUVIUM AND TILL	ggc	OUTWASH SAND AND GRAVEL
cli	DIABASE- AND BASALT-CLAST CLAY LOAM COLLUVIUM	cbk	BOULDERY COLLUVIUM AND BOULDER-FIELD DEPOSITS
cl	LOAMY COLLUVIUM	nla	LOAMY SOLIFLUCTION DEPOSITS
jlb	LANDSLIDE DEPOSITS	nma	CLAYEY TO SANDY SOLIFLUCTION DEPOSITS
zla	LOAMY DECOMPOSITION RESIDUUM	tle	LOAMY TILL (Warrensville Till in Pennsylvania)
zlb	LOAMY DECOMPOSITION RESIDUUM	aeb	ALLUVIAL, ESTUARINE, AND MARINE GRAVEL, SAND, SILT, AND CLAY (Cape May Formation in New Jersey)
zlh	LOAMY DECOMPOSITION RESIDUUM	tcm	CLAYEY TO LOAMY TILL
zli	LOAMY DECOMPOSITION RESIDUUM AND TILL	agq	ALLUVIUM AND OUTWASH SAND AND GRAVEL
zlk	LOAMY DECOMPOSITION RESIDUUM	asm	GRAVELLY SAND AND LOAMY DECOMPOSITION RESIDUUM (Pensauken Formation in New Jersey)
zll	LOAMY DECOMPOSITION RESIDUUM AND TILL	tch	CLAYEY TO LOAMY TILL
zlm	LOAMY DECOMPOSITION RESIDUUM AND TILL	agr	ALLUVIUM, OUTWASH, AND LAKE DEPOSITS (Mannetto Gravel on Long Island, New York)
zlc	SILTY SAND TO SILTY CLAY DECOMPOSITION RESIDUUM	zss	CLAYEY SAND DECOMPOSITION RESIDUUM WITH CRUMBLY QUARTZ CLASTS (Bridgeton Formation in New Jersey)
zlj	SILTY SAND TO SILTY CLAY DECOMPOSITION RESIDUUM AND TILL	zlg	LOAMY DECOMPOSITION RESIDUUM WITH CRUMBLY QUARTZ CLASTS (Beacon Hill Gravel in New Jersey and Bryn Mawr Gravel in Pennsylvania)
tc	CLAYEY TILL--Ground moraine	zle	SANDY CLAY TO CLAYEY SAND DECOMPOSITION RESIDUUM
tc	CLAYEY TILL--End moraine	rcc	CHERTY CLAY SOLUTION RESIDUUM
tl	LOAMY TILL--Ground moraine	rcr	CHERTY CLAY SOLUTION RESIDUUM AND TILL
tl	LOAMY TILL--End moraine	rcj	CLAYEY SOLUTION RESIDUUM
tl	LOAMY TILL--Stagnation moraine	rci	LOAMY TO CLAYEY SOLUTION RESIDUUM
tlr	LOAMY TILL--Discontinuous loamy till	slb	MICACEOUS SAPROLITE
tlg	LOAMY TILL--Ground moraine	slc	SILTY TO CLAYEY SAPROLITE
tlg	LOAMY TILL--Ground moraine under Lake Ontario	ssb	SILTY TO CLAYEY SANDY SAPROLITE
tlg	LOAMY TILL--End moraine	R	BEDROCK
tlr	LOAMY TILL--Discontinuous loamy till	IT	ICE-THRUST MASS--Bedrock and surficial deposits that were thrust, stacked, imbricated, and deformed by glacial ice
tltd	LOAMY TILL (Olean Till in New York and Pennsylvania)--Ground moraine	f	MANMADE LAND--Chiefly filled land and strip mines
tltd	LOAMY TILL (Olean Till in New York and Pennsylvania)--End moraine		CONTACT
tlr	LOAMY TILL (Olean Till in New York and Pennsylvania)--Discontinuous loamy till		ERRATIC TRAIN OR DISPERSAL FAN--Apex at source
tlv	LOAMY TILL--Ground moraine		ESKER--Direction of transport indicated by chevrons
tlr	LOAMY TILL--Discontinuous loamy till		OUTER LIMIT OF GLACIAL ADVANCE--CERTAIN
tka	LOAMY TILL--Ground moraine		OUTER LIMIT OF GLACIAL ADVANCE--INFERRED
tka	LOAMY TILL--Ground moraine under Lake Ontario		CREST OF SUBMERGED END MORaine
tlz	LOAMY TILL--Ground moraine		GLACIAL LAKE SPILLWAY OR MELTwater CHANNEL
tlz	LOAMY TILL--End moraine		ICE-MOLDED LANDFORM--Drumlin, rock drumlin, flute, or groove
tlv	LOAMY TILL		WIND DIRECTION INDICATED BY DUNE ORIENTATIONS
td	SANDY LOAMY TILL--Ground moraine		DIRECTION OF ICE MOVEMENT--Direction indicated by striated or grooved bedrock
td	SANDY LOAMY TILL--Stagnation moraine		
td	SANDY LOAMY TILL--End moraine		
tdr	SANDY LOAMY TILL--Discontinuous sandy loamy till		
tda	SANDY LOAMY TILL--Ground moraine		
tda	SANDY LOAMY TILL--Stagnation moraine		
tda	SANDY LOAMY TILL--End moraine		
ts	SANDY TILL--Ground moraine		
ts	SANDY TILL--End moraine		
tsr	SANDY TILL--Discontinuous sandy till		
tx	SANDY TO CLAYEY TILL--Ground moraine		
tx	SANDY TO CLAYEY TILL--End moraine		

Plot of digital database for  
QUATERNARY GEOLOGIC MAP OF THE HUDSON RIVER 4° x 6° QUADRANGLE,  
UNITED STATES AND CANADA