U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

OPEN FILE REPORT 97-639
Plate 2- Surficial Geology
Reynolds, R.J., 1997, Hydrogeology of the Schodack-Kinderhook area, Rensselaer and Columbia Counties, New York

42° 37' 30" | 73°48' | 45' | 42'30" | 40' | 37'30"

35' | 32' 30" | 30' | 27' 30" | 25' | 22' 30"

EXPLANATION

HOLOCENE

al — ALLUVIUM--Postglacial river and stream flood-plain deposits consisting predominantly of silt, sand, clay, and some gravel, locally overlain by flood-plain silt and fine sand of variable thickness in large valleys subject to frequent flooding. Alluvium also occupies closed topographic depressions such as kettles and may include postglacial deposits of peat and muck. Thickness variable but generally less than 30 feet. May contain small unmapped areas of artificial fill.

alf — ALLUVIAL FAN--Fan-shaped, fluvially deposited accumulations of poorly stratified silt, sand, and gravel deposited by tributary streams at the foot of steep slopes. Relatively high permeability.

alt — ALLUVIAL TERRACE--Postglacial stream terraces composed of stratified silt, sand, and gravel produced by continued or renewed downcutting of the flood plain or valley floor by the stream. Moderately permeable but may be largely unsaturated.

w — OPEN WATER--Areas of open water such as lakes, large ponds, or reservoirs.

PLEISTOCENE

ls — LACUSTRINE SAND--Well-sorted, stratified, blanket sands deposited into glacial Lake Albany in a near-shore, shallow water environment. In places may represent the topset beds of prograding deltas built into glacial Lake Albany by ice-marginal streams. May include some sand or sand and gravel interbeds in clay. Moderate permeability.

lss — LACUSTRINE SAND AND SILT--Well-sorted, stratified sand and silt deposited into glacial Lake Albany as foreset beds of prograding deltas of ice-marginal tributary streams. Represents deposition in deeper parts of the lake than lacustrine sand. Moderate to poorly permeable.

lsc — LACUSTRINE SILT AND CLAY--Silt and clay deposited as bottom sediment in the deepest parts of glacial Lake Albany, or as bottomset beds from prograding deltas of ice-marginal streams. Rhythmically bedded. Low permeability. May locally contain interbedded pebble gravels.

ld — LACUSTRINE DELTA--Stratified, coarse to fine gravel and sand deposited as prograding deltas into glacial Lake Albany or into small temporary proglacial lakes. Generally well sorted. Moderate permeability. Variable thickness.

osg — OUTWASH SAND AND GRAVEL--Stratified sand and gravel deposited by meltwater streams as outwash plains or terraces, as outwash heads, or as valley train in small valleys. On the Schodack Terrace, outwash overlies ice-contact sand and gravel and represents a deltaic facies deposited into glacial Lake Albany after ice withdrew slightly to the north (La Fleur, 1965, p. 6). Relative permeability high to very high. Represents major sand and gravel aquifer where sufficiently saturated. Thickness variable.

ftg — FLUVIAL TERRACE GRAVEL--Fluvial deposits of well-sorted sand and gravel deposited as terraces along streams tributary to later stages of glacial Lake Albany or Lake Coveville. May consist of reworked outwash sand and gravel in areas. Permeable but largely unsaturated because of their elevation above the modern streambed.

bsg — BEACH SAND AND GRAVEL--Consists of pebble gravel and interbedded clays. Beach sand and gravel was deposited during the 330-ft level of glacial Lake Albany and is derived principally from reworked ice-contact and outwash sand and gravel of the Schodack Terrace.

ksg — KAME SAND AND GRAVEL--Ice-contact deposits of fluvially sorted coarse to fine gravel and(or) sand in kames, kames terraces, and kame deltas. Extreme variability in sorting, grain size, and thickness of individual beds. Variable thickness and permeability. High permeability in coarse, well-sorted beds. Ice-contact sand and gravel, deposited as a kame terrace, underlies and abuts most of the northern and eastern sections of the Schodack and Kinderhook terraces.

eg — ESKER GRAVEL--Glaciofluvial ice-contact sand and gravel deposited in tunnels beneath or within the ice or as crevasse fillings in stagnant glacial ice. Eskers are mapped separately from other ice-contact deposits because of their typically coarse-grained composition. Sorting ranges from poor to well sorted. Permeability generally high.

t — TILL (GROUND MORAINE)--Unsorted, unstratified mixture of clay, silt, sand, gravel, and boulders deposited beneath advancing glacial ice. Relatively impermeable because of moderate to large clay content. Thickness generally less than 10 ft with frequent rock outcrops. May yield adequate amounts of water for domestic use to large-diameter dug wells where sufficiently saturated.

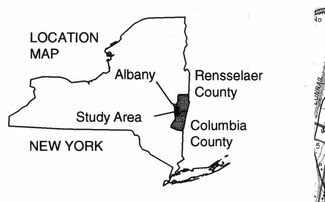
tt — TILL, THICK--Unsorted, unstratified mixture of clay, silt, sand, gravel and boulders deposited beneath advancing glacial ice. Forms drumlinoid hills and mantles uplands in thicknesses greater than 10 feet. Relatively impermeable because of moderate to large silt and clay content. May yield adequate amount of water for domestic use to large-diameter dug wells where sufficiently saturated.

CAMBRIO-ORDOVICIAN

r — BEDROCK--Areas where bedrock is exposed or close to land surface. Bedrock in the study area ranges from metasedimentary slates, shales, and thin quartzites of Cambrian age to mudstones and sandstones of Middle Ordovician age (Fisher and others, 1970).

GEOLOGIC CONTACT--Denotes contact between adjacent surficial geologic units. Approximately located. Dashed where inferred.

LOCATION MAP



Base from New York State Department of Transportation
Delmar, 1983; East Greenbush, 1974; Kinderhook, 1976; Ravena, 1983.
NY, 1:24,000

HYDROGEOLOGY OF THE SCHODACK-KINDERHOOK AREA, RENSSELAER AND COLUMBIA COUNTIES, NEW YORK

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1997

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Geology from R.G. LaFleur (1965a, 1977a,b,c)