

GEOLOGIC SECTIONS

Data obtained from drillers' logs, logs of test holes, consultants' reports, published reports of the U.S. Geological Survey, and files of the U.S. Geological Survey in Albany, N.Y., were used to construct the geologic sections. The sections show the approximate dimensions of the aquifer and the stratigraphic relations among the various types of unconsolidated deposits.

The unconsolidated deposits in the Mohawk River valley generally consist of Holocene alluvium that is underlain by outwash sand and gravel that in turn overlies lacustrine silt and clay. Till, that was deposited by the last advance of the Oneida sublobe underlies these sediments. Locally the till is underlain by basal sand and gravel that may have been reworked and deposited during an earlier glacial event. Most of the sediment in the Mohawk valley was originally deposited by meltwater streams that discharged from the retreating ice lobes and later was reworked by large volumes of water that drained eastward from the proglacial Great Lakes. Mueller and others (1984) concluded that two such episodes of eastward drainage of the proglacial Great Lakes caused fluvial aggradation of sand and gravel in the Mohawk River valley.

The unconsolidated material that was deposited in the major tributary creek valleys also is a result of the last glacial advance and consists of outwash gravel, till, ice-contact material, and Holocene alluvium.

Logs of wells and test holes in this area enabled the construction of the four geologic sections shown here. All four show the stratigraphy of unconsolidated units in the Mohawk River valley; section C-C' includes units in the Ninemile Creek valley.

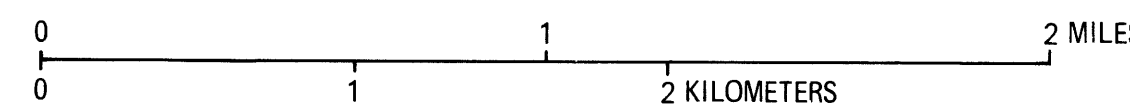
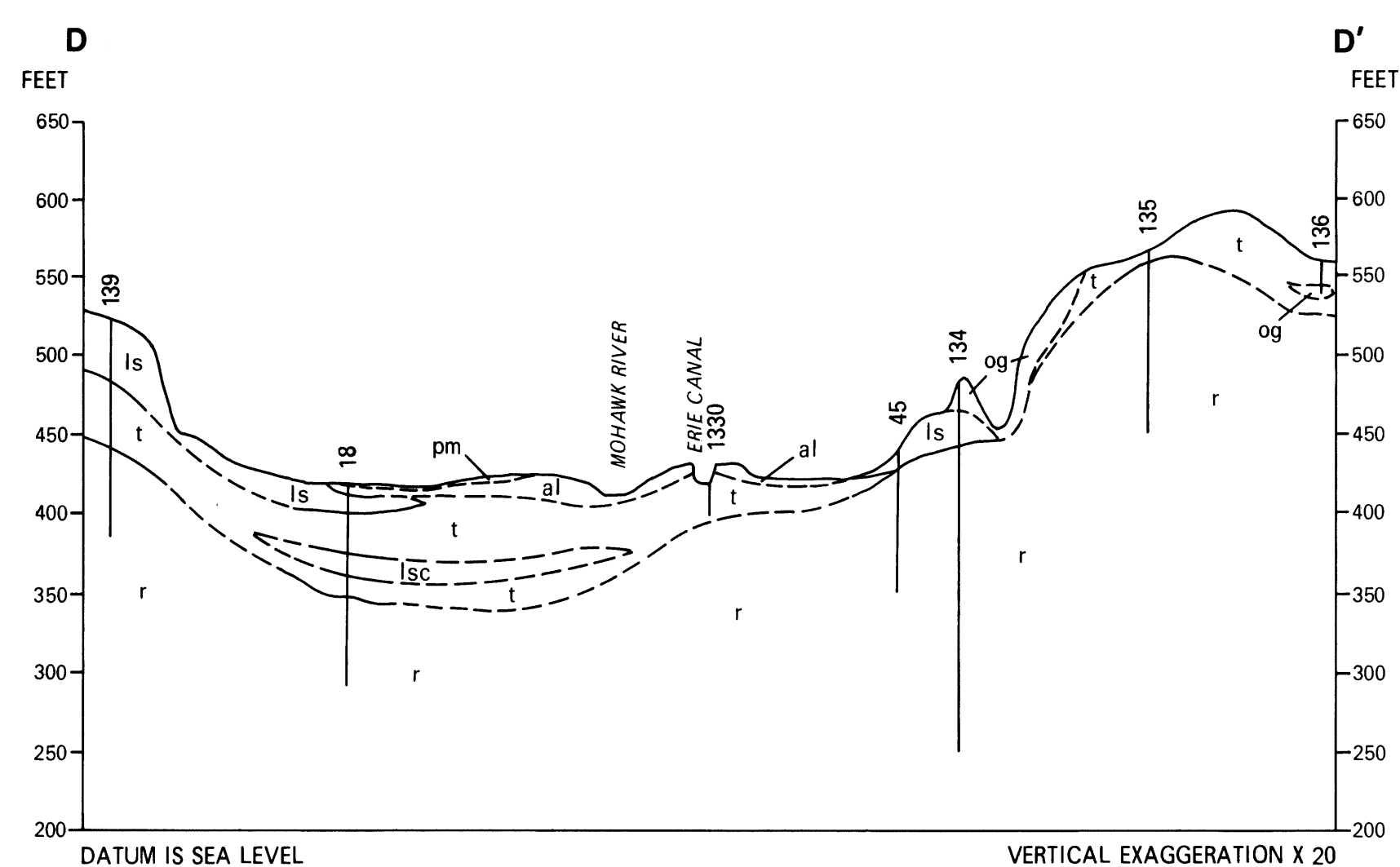
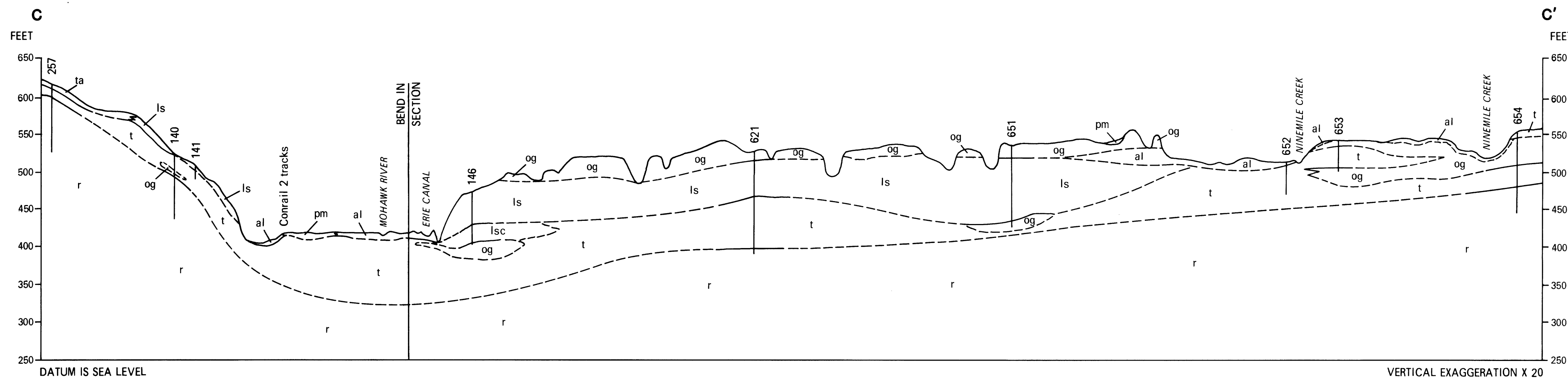
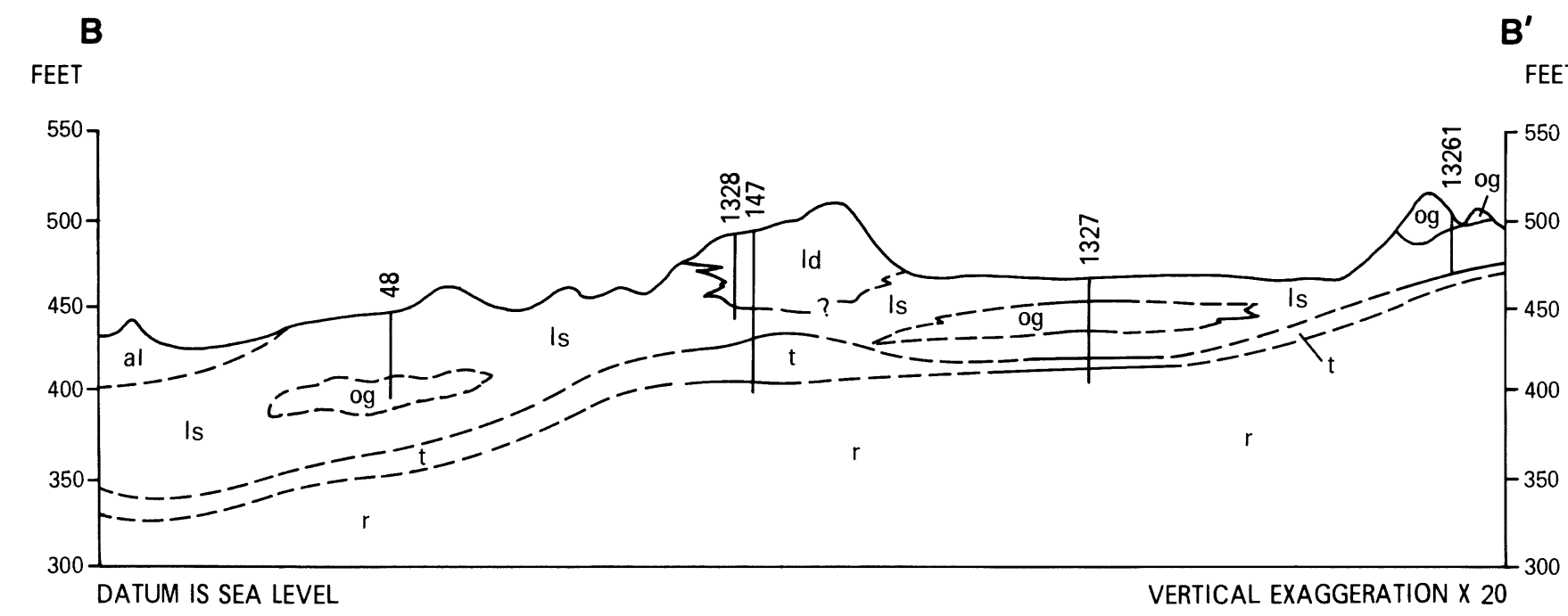
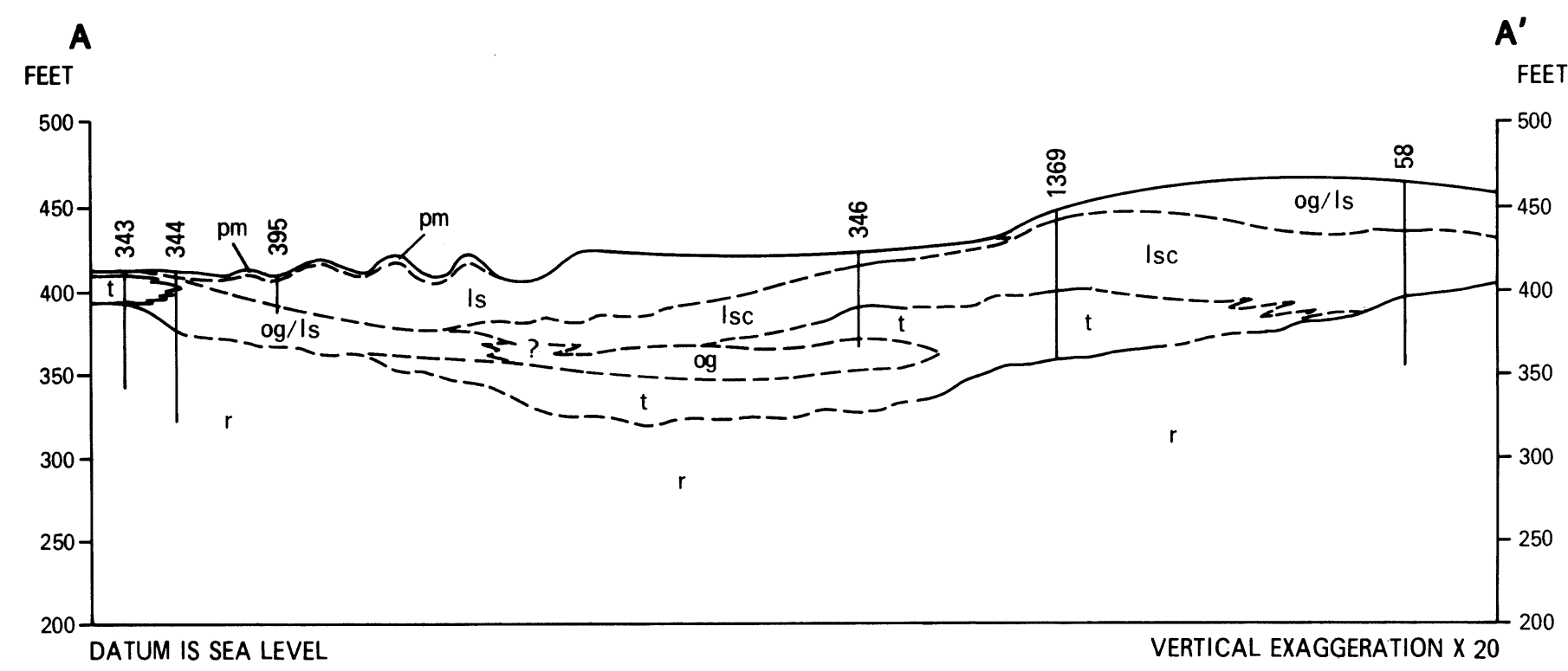
The most areally extensive unconsolidated aquifer is the surficial water-table aquifer, which consists of lacustrine sand and underlying outwash sand and gravel. Sand and gravel confined beneath fine-grained lake deposits and till, or both, forms smaller, discontinuous aquifers. Ninemile Creek valley locally contains some deposits of surficial outwash sand and gravel that are largely unsaturated because they are above the base level of the present Ninemile Creek.

REFERENCE CITED

Mueller, E. H., Franz, D. A., Ridge, J. C., 1984, The late Wisconsinan glaciation of the West Canada Creek valley, in Potter, D. B., ed., Guidebook, New York State Geological Association, 56th Annual meeting, Hamilton, N.Y.: p. 237-277.

EXPLANATION

- al ALLUVIUM--Postglacial alluvial deposits of silt, fine sand, and some gravel generally confined to flood plains within a valley. In larger valleys that are subject to frequent flooding, may be overlain by silt of variable thickness. Generally permeable. Thickness variable but generally less than 30 feet
- pm SWAMP DEPOSITS--Postglacial to recent deposits of peat, muck, organic silt, and sand that accumulated in poorly drained areas and localized depressions. May overlie marl and lake silt. Thickness generally less than 60 feet
- lsc LACUSTRINE SILT AND CLAY--Silt and clay deposited as bottom sediment in a proglacial lake. Generally composed of calcareous, thinly bedded, laminated beds of silt that can be massive. Variable thickness of up to 300 feet; very low permeability.
- ld LACUSTRINE DELTA--Fluvially deposited, stratified, coarse to fine gravel and sand. Generally well sorted and deposited by meltwater streams extending into proglacial lake. Variable thickness.
- ls LACUSTRINE SAND--Sand, well sorted, stratified, fluvially deposited into a proglacial or postglacial lake in a nearshore, shallow-water environment. Variable thickness, permeable.
- og OUTWASH SAND AND GRAVEL--Glaciofluvial stratified sand and gravel deposited by meltwater streams as valley train or as outwash plains and terraces. Highly permeable, well-sorted coarse to fine gravel with sand. Generally finer grained with increasing distance from ice border. Variable thickness.
- t TILL--Ice-contact deposit; unstratified, unsorted mixture of clay, silt, gravel, and boulders. Relatively impermeable with moderate to large clay content. Thickness variable (up to 150 feet) but generally less than 20 feet in the upland areas.
- ta ABLATION TILL--A morainal or sheet deposit of till that was deposited from rapidly retreating ice. Ablation till is formed from rock debris formerly embedded in or resting atop of the ice sheet and deposited mainly as the ice melted. Ablation till is typically loose and uncompacted and is therefore more permeable than till; it also tends to be coarser because more of the silt and clay fraction was removed by meltwater
- r BEDROCK--Upper Ordovician Utica and Frankfort shales and middle Silurian shale and sandstones with a few beds of dolomite.
- 344 WELL--Well that had a geologic log used in construction of geologic section. Number is an identifier assigned by county.
- GEOLOGIC-UNIT BOUNDARY--Boundary of geologic units, defined as contact between sediment and bedrock. Dashed where approximately located.



TRACE OF GEOLOGIC SECTIONS SHOWN ON SHEET 2

HYDROGEOLOGY OF THE STRATIFIED-DRIFT AQUIFERS IN THE ROME AREA, ONEIDA COUNTY, NEW YORK

By
George D. Casey and Richard J. Reynolds
1988