

SURFICIAL GEOLOGY

Glacial deposits resulting from the last advance and retreat of continental ice in the region are the most prevalent features on the landscape. Sediments transported by the ice and deposited on bedrock range from less than 10 ft to more than 400 ft thick. Sediments transported by meltwaters from the glacier were deposited near the glacier's edge as outwash or deltas or were carried into lakes, where they settled out to form clay and silt deposits.

Ablation and lodgment till cover large areas of the southwest and the northeast parts of the basin. Large kame deposits are found in the south, central, and eastern parts of the basin. At lower altitudes, kame and till deposits are overlain by lake sand, silt, and clay. Two major glacial-lake outlets containing coarse sediments are also indicated in the east and south parts of the basin. Significant deposits of recent alluvial sediment are found along the major stream channels—Irondequoit Creek, Allen Creek, and Thomas Creek. The distribution of surficial materials, their relationship to the succession of glacial-lake stages that occupied the area during the retreat of the last ice sheet, and the relative permeability of each type of deposit, based on clay, silt, and sand content, is indicated in the explanations.

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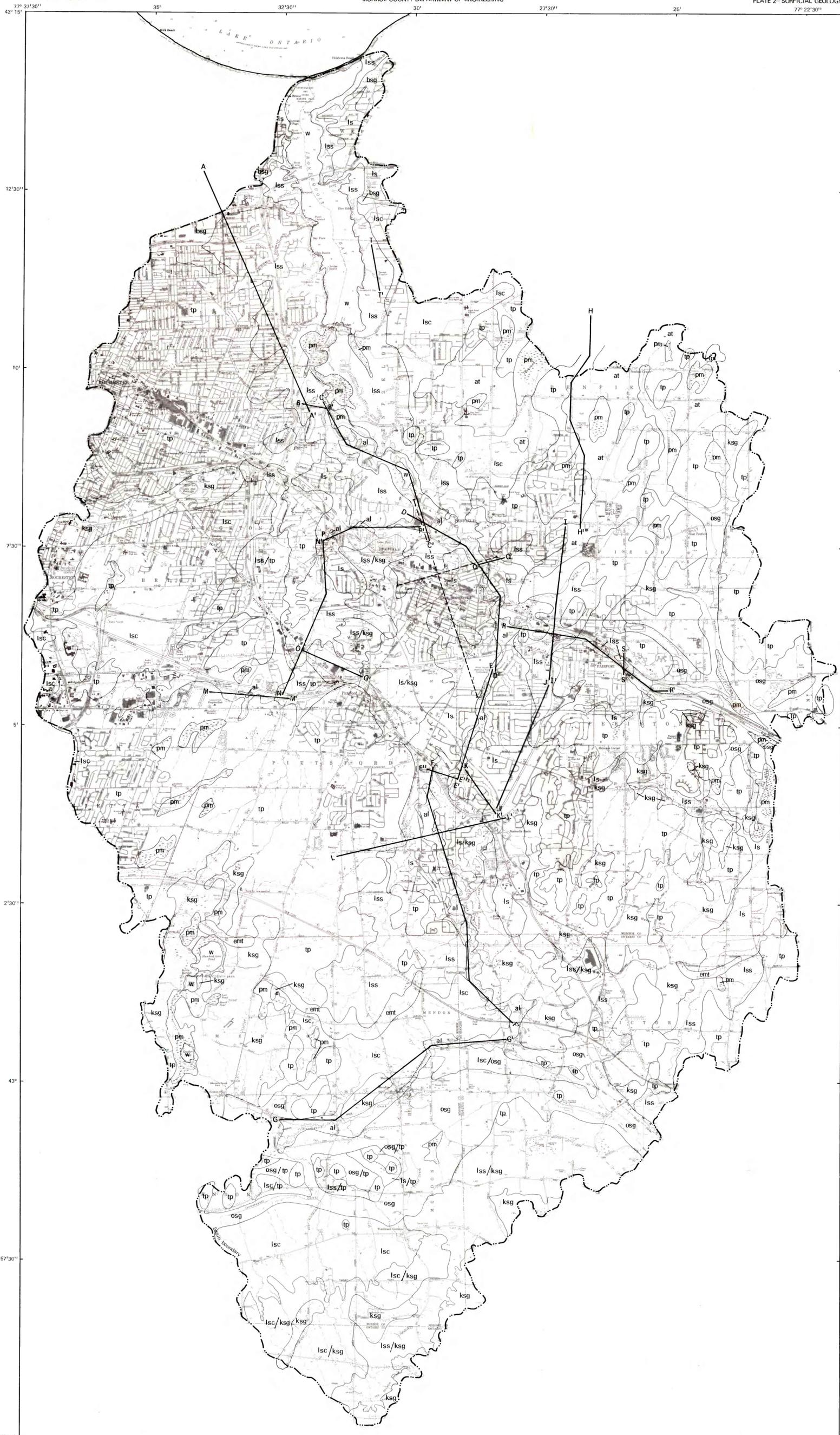
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EXPLANATION

- w OPEN-WATER AREA
- al ALLUVIAL SILT, SAND AND GRAVEL—stream deposits of postglacial age; generally high permeability.
- pm PEAT, MUCK, MARL AND CLAY—bog deposits of postglacial age; low permeability.
- lsc LAKE CLAY AND SILT—offshore deposits in proglacial or postglacial lakes; thin-bedded to massive; low permeability.
- lss LAKE SILT AND FINE SAND—offshore deposits in proglacial and postglacial lakes, thin-bedded to massive, moderate permeability.
- ls LAKE SAND—fine to medium sand in beaches, bars, and deltas of proglacial and postglacial lake plains; well-sorted; high permeability.
- bsg BEACH SAND AND GRAVEL—coarse sand and gravel deposits; well-sorted; high permeability.
- ksg KAME SAND AND GRAVEL—ice-contact deposits including eskers and esker fans; stratified and well sorted; high permeability.
- osg OUTWASH SAND AND GRAVEL—meltwater deposits emerging from the ice front; stratified and well sorted; high permeability.
- at ABLATION OR WASHED TILL—mixture of clay, silt, sand and boulders deposited from superglacial or englacial drift laid down as the ice melted, generally less than 10 feet thick overlying till (tp); noncompact and coarser texture than till (tp); moderate permeability, variable from place to place.
- tp TILL PLAIN—ground moraine; mixture of clay, silt, sand, and boulders deposited beneath glacial ice; deposits range in thickness from 10 to 50 ft; includes drumlins; overlies bedrock and underlies most other deposits; compact; poorly sorted; low permeability.
- emt END MORaine—mixtures of till and stratified drift containing clay, silt, sand, and boulders dropped at ice margin during ice-front stagnation; ice-contact deposit, poorly to well sorted; permeability variable.
- ls/ksg Signifies that surficial unit thinly covers or partly covers a more massive formation; in this example, lake sand (ls) overlies kame sand and gravel (ksg).
- GEOLOGIC CONTACT—location approximate.
- LINE OF GEOLOGIC SECTION—reported by Waller and others (1982).
- A—A' LINE OF GEOLOGIC SECTION—see plates 6A and 6B.



43° 55' Based on New York State Department of Transportation Planimetric maps, 1:24,000 scale.

GEOHYDROLOGY OF THE IRONDEQUOIT CREEK BASIN NEAR ROCHESTER, NEW YORK

SURFICIAL GEOLOGY

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