

**POTENTIOMETRIC SURFACE AND  
 DIRECTION OF GROUND-WATER MOVEMENT**

The contours on this map represent the generalized potentiometric-surface altitude in the unconfined saturated sediments of the basin. The contours in Monroe County are based on water levels measured in many wells during the early 1930's (Leggette and others, 1935), data developed by Young (1980), Waller and others (1982), and subsequent well or boring data. The contours in Ontario County are based on data of Mack and Dignan (1962), subsequent well and boring data, and, where no other data were available, the altitudes of perennial streams. The contours are highly generalized owing to the large size of the basin and the high relief within it. These contours, therefore, may not reflect the actual water-table altitude at specific locations.

Ground water in the Irondequoit basin generally follows the pattern of surface-water drainage and flows toward Irondequoit Bay and ultimately toward Lake Ontario. Ground water flows at right angles to the potentiometric contours in the directions indicated by the arrows. The direction of ground-water flow in any given location may differ from that indicated on the map, however, owing to the local influence of glacial stratigraphy or topography.

Ground water in permeable sediments overlying impermeable materials generally drains laterally to nearby stream channels; ground water in permeable deposits that are hydraulically connected to the aquifer system may travel vertically to deeper permeable units.

The location of the ground-water divide indicates that the ground-water basin is smaller than the surface-drainage area. Ground water in almost the entire White Brook drainage area and a major part of the Thomas Creek basin drains away from the Irondequoit Creek basin toward the Ganaragus Creek basin to the east, and part of the ground water in the Mendon Ponds area drains to Honeoye Creek basin to the west.

**REFERENCES CITED**

Leggette, R. M., Gould, L. O., and Dollen, B. H., 1935, Ground-water resources of Monroe County, New York: Rochester, Monroe County Regional Planning Board, 186 p.

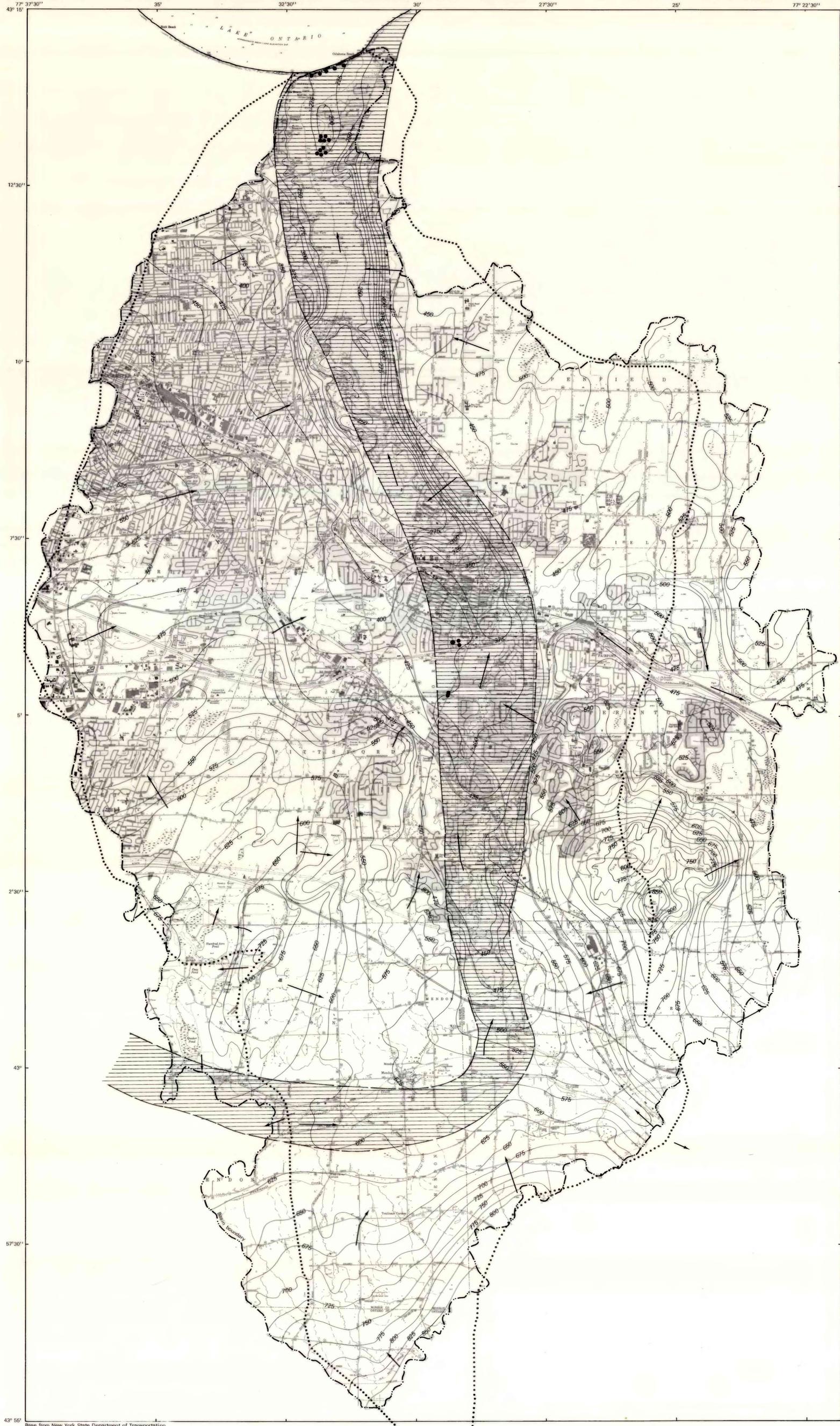
Mack, F. K. and Dignan, R. E., 1962, Ground-water resources of Ontario County, New York: State of New York, Department of Environmental Conservation, Water Resources Commission, Bulletin GW-43, 99 p., 2 maps.

Waller, R. M., Holecsek, T. S., and others, 1982, Geohydrology of the preglacial Genesee valley, Monroe County, New York: U.S. Geological Survey Open-File Report 82-552, 5 sheets, 1:24,000 scale.

Young, R. A., 1980, Explanation to accompany subsurface bedrock contour maps, overburden thickness maps, and generalized groundwater contour maps, Monroe County, New York: Rochester, Monroe County Environmental Management Council, 8 p., 3 maps.

**EXPLANATION**

- ..... GROUND-WATER DIVIDE
- MUNICIPAL WELLS
- ▨ BOUNDARY OF PREGLACIAL IRONDEGENESE VALLEY—location approximate.
- POTENTIOMETRIC CONTOUR—shows approximate altitude at which water would stand in tightly cased wells; dashed where control is poor. Arrow indicates general direction of ground-water flow. Contour interval 25 feet. Datum is sea level.



Base from New York State Department of Transportation  
 Plainimetric maps, 1:24,000 scale

**GEOHYDROLOGY OF THE IRONDEQUOIT CREEK BASIN NEAR ROCHESTER, NEW YORK  
 POTENTIOMETRIC SURFACE AND DIRECTION OF GROUND-WATER MOVEMENT**

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