

GROUND-WATER RECHARGE AREAS

Ground water occurs in the surficial deposits nearly everywhere in the Irondequoit Creek basin. However, the quantities available and the rates of movement vary locally, depending on the extent and characteristics of the sediments. The recharge areas shown on the map indicate where the surficial sediments and their associated soil zone are sufficiently permeable to accept infiltration and transmit ground water at relatively high rates. Areas not labeled on the map are nearly impermeable or are in discharge areas.

A significant amount of ground water is transmitted through the northern part of the Irondegenese aquifer, which occupies at least part of the buried preglacial valley. Permeable sediments overlying and adjacent to the buried valley walls may represent potential recharge areas to the Irondegenese aquifer, which in 1980 supplied 4 million gallons per day to municipal water-supply systems (Waller and others, 1982). However, the extent of the main aquifer within the buried valley to the south of East Rochester is unknown because stratigraphic data are lacking, and it is uncertain what proportion of these recharge areas is in direct contact with the buried aquifer.

Near-surface bedrock in the central part of the basin, classified as Lockport Dolomite, is highly fractured and jointed and is capable of transmitting significant volumes of ground water. The area of Lockport Dolomite indicated on the map, where covered by thin permeable sediments, may strongly influence ground-water flow patterns. The Lockport formation may serve to recharge surficial sediments with ground water originating at higher altitudes. The other shallow bedrock units may function in a similar manner, depending on their degree of fracturing and relative altitude within the basin.

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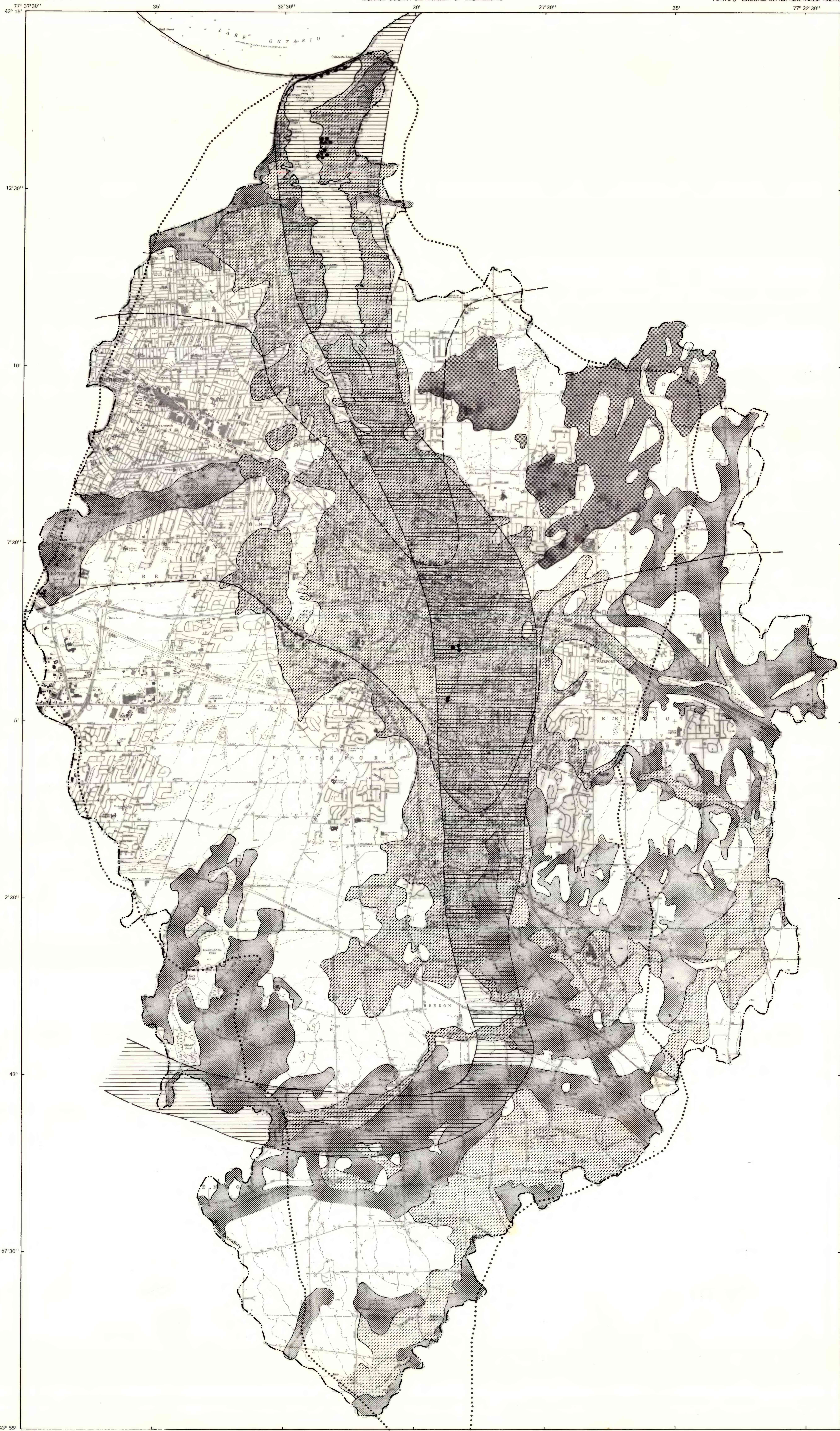
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EXPLANATION

- GROUND-WATER DIVIDE
- MUNICIPAL WELL
- PREGLACIAL IRONDEGENESE VALLEY--location approximate
- LOCKPORT DOLOMITE--subcrop largely covered by drift

Recharge Areas and Relative Recharge Rates

- SORTED SAND AND GRAVEL--includes kame, outwash and terrace deposits, and beach deposits - high
- UNSORTED SAND AND GRAVEL--ablation till - medium
- LACUSTRINE SAND AND SILT - low



GEOHYDROLOGY OF THE IRONDEQUOIT CREEK BASIN NEAR ROCHESTER, NEW YORK

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