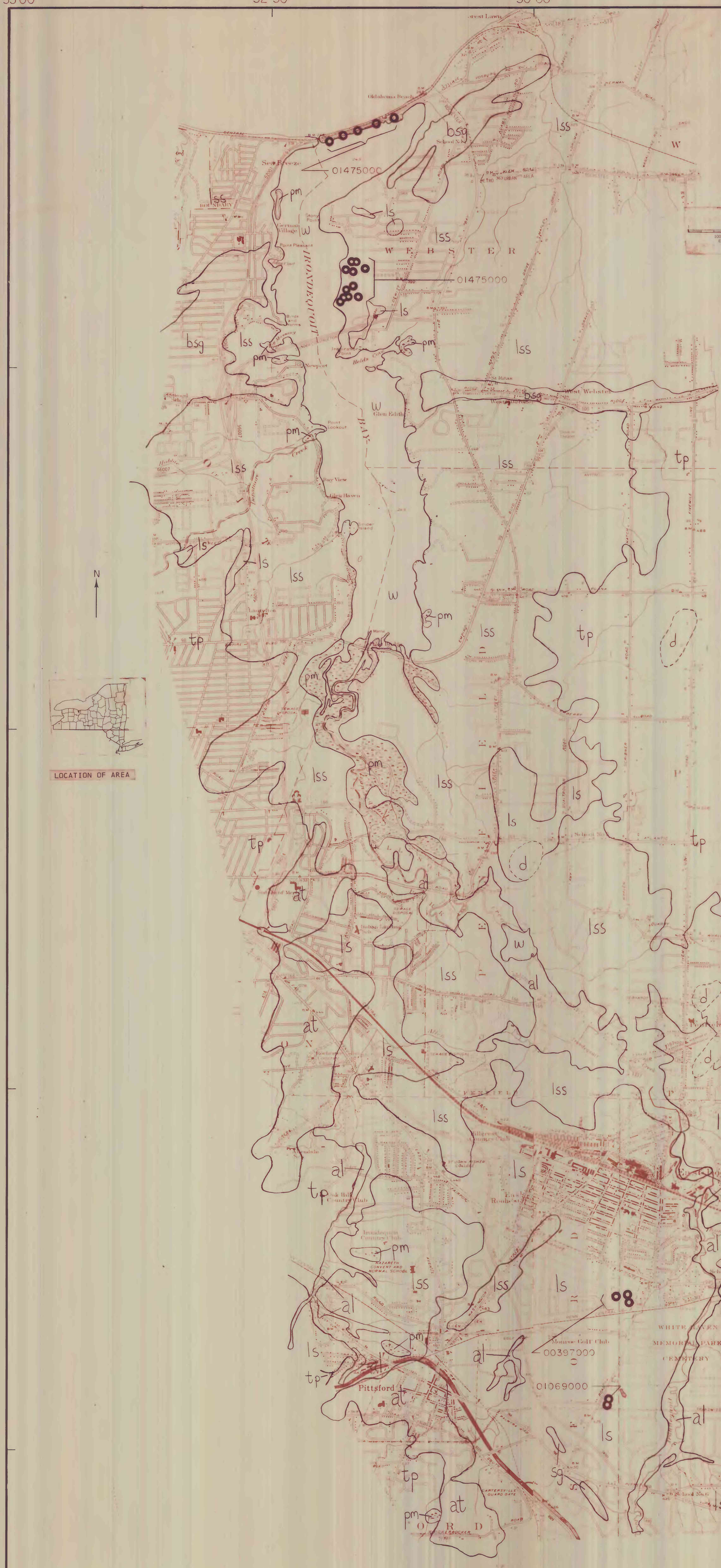
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
NEW YORK STATE DEPARTMENT OF HEALTH

OPEN-FILE REPORT 82-552
(SHEET 1 OF 5)

GENERALIZED SURFICIAL GEOLOGY

By
Roger M. Waller



SCALE 1:24000

0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
0 1 KILOMETER

INTRODUCTION

The preglacial Genesee valley near Rochester, in western New York (commonly called the Irondogenesee Valley because it underlies the Irondequoit Creek-Bay area) contains a significant aquifer system. It supplies water for community water systems and industrial water in the east-central part of Monroe County. The aquifer underlies a 20-square-mile area.

The mapping is a compilation of available information on the limits and characteristics of one of the principal buried-valley aquifers in upstate New York. Findings relating to the aquifer are presented in this series of maps to provide water managers with current geologic, hydrologic, and land-use information to aid in protecting and managing this prolific aquifer. The study was made in cooperation with the New York State Department of Health, Bureau of Public Water Supply, through a grant from the U.S. Environmental Protection Agency. The hydrologic data used in preparing these maps are available in the cited references and in the New York Subdistrict Office of the U.S. Geological Survey in Ithaca, New York.

EXPLANATION

	w	Open-water area
QUATERNARY	al	Alluvial silt, sand, and gravel; stream deposits of postglacial age; high permeability
	pm	Peat, marl, muck, and clay; bog deposits of postglacial age; low permeability
	lss	Lake clay, silt, and very fine sand; offshore deposits in proglacial or postglacial lakes; thin bedded to massive; low permeability
	ls	Lake sand, fine to medium; offshore deposits in proglacial or postglacial lakes; well sorted; moderate permeability
	bsg	Beach sand and gravel; coarse sand and gravel deposited near shore or at shoreline of proglacial or postglacial lakes; well sorted; high permeability
	sg	Sand and gravel; kame, kame terrace, and outwash deposited at ice front; stratified; well sorted and high permeability
	at	Ablation or washed till; mixture of clay, silt, sand, and boulders deposited from drift laid down after ice melted beneath it; noncompact and generally has a slightly coarser texture than till (tp); variable permeability
	tp	Till; generally less than 30 feet thick mixture of clay, silt, sand, and boulders deposited at base of glacier, includes drumlins (d) in east part; underlies most of the lacustrine deposits; poorly sorted; low permeability

——— GEOLOGIC CONTACT--approximately located

NOTE

Mapping is based on a soil-survey map (Sweet and others, 1938) and is considered to be a reconnaissance-type representation of the generalized geologic features. Because of its general nature, the map should not be used alone to determine site-specific geologic conditions. Till, deposited by a continental ice sheet, was reworked by one or more proglacial lake systems, leaving a mantle of fine-grained deposits over the till plain and coarser-grained deposits at the shorelines. It is believed (Fairchild, 1896) that a tongue of ice stagnated in the Irondequoit Bay area (the preglacial Genesee valley, see sheet 2) and greatly affected the last stages of sediment deposition in the area. It appears that most meltwater flowed off the east side of the tongue of ice and deposited much sandy material along and in the present east side of the Irondequoit valley.

REFERENCES CITED

Fairchild, H. L. 1896, Kame areas in western New York south of Irondequoit and Sodus Bays: Jour. Geology, v. 4, p. 129-159.

Sweet, A. T., and others, 1938, Soil survey of Monroe County, New York: U.S. Department of Agriculture, Bureau of Chemistry and Soils, ser. 1933, no. 17, 67 p.

BASE FROM NEW YORK STATE DEPARTMENT OF TRANSPORTATION
FAIRPORT, N.Y., 1968; MENDON PONDS, N.Y., 1968;
ROCHESTER EAST, N.Y., 1968; WEBSTER, N.Y., 1968. 1:24,000

GEOLOGY MAPPED IN 1981

GEOHYDROLOGY OF THE PREGLACIAL GENESEE VALLEY, MONROE COUNTY, NEW YORK

1982