DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
NEW YORK STATE DEPARTMENT OF HEALTH

OPEN-FILE REPORT 82-268
(SHEET 1 OF 5)

76°05′ 02′30″ 76°00′ 57′30″ 55′ 52′30″ 75°50′

42° 10′

07′30″

42° 05′

## INTRODUCTION

The mapping was undertaken to compile available information on the limits and characteristics of one of the principal valley-fill aquifer systems in upstate New York. The valley-fill aquifer system in the Endicott-Johnson City area underlies a 21-square-mile area in Broome County in south-central New York. It is a primary source of water for community water systems, industry, and rural residents in the central part of the county.

Findings relating to the aquifer system are presented in this series of maps to provide water managers with current knowledge to aid in protecting and managing this prolific aquifer. 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 Albany, New York.

Funding for the study was provided by the New York State Department of Health, Bureau of Public Water Supply, through a grant from the U.S. Environmental Protection Agency.

## EXPLANATION

QUATERNARY

- pm — Peat, muck, silt, and clay; primarily kettlehole deposits of late glacial to postglacial age, 20 feet or more thick; includes artificial fill; low permeability
- oa/g — Outwash or alluvial sand and gravel overlying ice-contact sand and gravel; the sand and gravel is covered by 5-15 feet of fine sand and silt in low lying areas; meltwater stream, channel, and terrace deposits of post-glacial age; high permeability
- oa/l — Outwash or alluvial sand and gravel overlying lacustrine clay, silt, and fine sand; the sand and gravel is covered by 5-15 feet of fine sand and silt in low lying areas; meltwater deposits with upper zone reworked by postglacial streams; stratified and well sorted; high permeability
- ksg — Kame and kame terrace sand and gravel; includes alluvium along some tributary streams; high permeability
- mt — Morainal till; fine-grained sediments interbedded with or locally overlain by poorly sorted sand and gravel, deposited at edge of ice sheet; low permeability
- t — Till; glacial deposits of unstratified silt and sand, with occasional pebbles, cobbles, and boulders, thickness generally a few feet to many tens of feet; very low permeability

DEVONIAN

- r — Bedrock (undifferentiated); shale and siltstone; low to moderate permeability in fractures and joints

GEOLOGIC CONTACT--dashed where approximately located

A——A′ LINE OF SECTION--shown on sheet 3

AQUIFER BOUNDARY--dashed where full extent of aquifer is not shown

///// AREAS OF INSUFFICIENT DATA

INDEX MAP

DRAINAGE AREA TO AQUIFER

AQUIFER

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# SURFICIAL GEOLOGY

By

Allan D. Randall and Thomas J. Holecek

BASE FROM NEW YORK STATE DEPARTMENT OF TRANSPORTATION BINGHAMTON EAST, N.Y., 1973; BINGHAMTON WEST, N.Y., 1973; CASTLE CREEK, N.Y., 1973; CHENANGO FORKS, N.Y., 1973; ENDICOTT, N.Y., 1973; MAINE, N.Y., 1973. 1:24,000

# GEOHYDROLOGY OF THE VALLEY-FILL AQUIFER IN THE ENDICOTT-JOHNSON CITY AREA, BROOME COUNTY, NEW YORK

1982

GEOLOGY MAPPED IN 1981