

SURFICIAL GEOLOGY

By
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INTRODUCTION

The mapping was undertaken to compile available information on the limits and characteristics of one of the principal valley-fill aquifers in upstate New York. The valley-fill aquifer in the Jamestown area, underlies a 34-square-mile area in Chautauqua County, in southwestern New York. It is a primary source of water for rural residents, industry, and community water systems in the southeastern part of the county.

Findings relating to the aquifer are presented in this series of maps to provide water managers with current knowledge to aid in 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 Ithaca, New York.

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EXPLANATION

- QUATERNARY**
- sg** Sand; areas where the surficial deposit is predominantly sand; high permeability
 - sg** Sand and gravel; areas where the surficial deposit is predominantly interbedded layers of sand and gravel; high permeability
 - ac** Silt and clay; areas where the surficial material is predominantly interbedded layers of silt and clay; low permeability
 - m** Mixed deposits; areas in which the surficial deposits were formed as moraines; sand, gravel, lake-laid silt and clay, and till all occur as irregular masses and layers; sand and gravel are generally of minor importance; variable (low to high) permeability
 - t** Till; upland areas where the surficial deposit is till (predominantly clayey); bedrock is exposed on some steep slopes; low permeability

- GEOLOGIC CONTACT**—approximately located
- A—A'** LINE OF SECTION—see sheet 2, "Geologic Sections"
- AQUIFER BOUNDARY**—dashed where full extent of aquifer is not shown

WELL SYMBOLS

- 00676000** COMMUNITY WATER SYSTEM WELL OR WELL FIELD—numbered by New York State Department of Health
- 208-912-9** WELL OR TEST HOLE—used to draw "Geologic Sections," sheet 2; with identifier used by Crain (1966) or identifier assigned for unpublished test-hole data on file with the U.S. Geological Survey, Ithaca, NY (example 208-906-TW)

REFERENCE CITED

Crain, L. J., 1966, Ground-water resources of the Jamestown area, New York, with emphasis on the hydrology of the major stream valleys: New York State Water Resources Commission Bulletin 58, 167 p.



GEOHYDROLOGY OF THE VALLEY-FILL AQUIFER IN THE JAMESTOWN AREA, CHAUTAUQUA COUNTY, NEW YORK

GEOLOGY FROM L. J. CRAIN (1966)