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 2 OF 5)

## EXPLANATION

### WATER-INFILTRATION POTENTIAL OF SOIL ZONE

| Map Units | Classification |
|---|---|
| 1 | Very low--soil derived from glacial till; top of fragipan, with permeability less than 0.2 in/hr, is less than 18 inches below land surface. Also includes some small areas of peat and muck where infiltration may be minimal because of high water table. |
| 2 | Low to very low--soil derived from glacial till overlain by thin mantle of silt or fine sand; top of fragipan or bedrock, generally within 30 inches of land surface, permeability 0.06 to .6 in/hr. |
| 3 | Moderate to high--soil derived from fine sandy to silty floodplain alluvium and small area of sandy or thin glacial outwash. Soil type and permeabilities vary widely; permeability generally ranges from 0.2 to 6 in/hr at depths of 20 to 50 inches, perhaps increasing at some greater depth. |
| 4 | High--soil derived primarily from gravel deposited by glacial meltwater; some alluvial fans of modern streams included. Permeability generally 0.6 to 6 in/hr near land surface, 6 to 20 in/hr at depths greater than 36 inches. |

BOUNDARY OF SOIL UNITS OF DIFFERING WATER-INFILTRATION POTENTIAL--approximately located

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

00685000 COMMUNITY WATER SYSTEM WELL OR WELL FIELD--numbered by New York State Department of Health

### NOTE

The infiltration potential classification depends upon such factors as soil moisture and temperature, density of vegetation, slope, soil porosity, grain-size distribution and cohesion, depth to seasonal high-water table, presence or absence of a water-impeding layer (fragipan), the intensity and duration of rainfall and other meteorological factors.

The permeability rate is a general estimate of how readily water can penetrate the surficial materials. The soil is considered herein to be the B and C horizons, which include the unweathered surficial geologic materials (sheet 1). The A horizons in the soils throughout the mapped area are all of high permeability (Giddings, 1971) and thus do not limit the infiltration potential as do B and C horizons.

### REFERENCE CITED

Giddings, E. B., Flora, D. F., and Olson, G. W., 1971, Soil survey of Broome County, New York: U.S. Soil Conservation Service, 95 p.

# WATER-INFILTRATION POTENTIAL OF SOIL ZONE

By

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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

HYDROLOGY MAPPED IN 1981