UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
SUFFOLK COUNTY WATER AUTHORITY

OPEN-FILE REPORT 82-162
PLATE 1A WEST

POTENTIOMETRIC SURFACE OF THE LLOYD AQUIFER, LONG ISLAND, NEW YORK, IN JANUARY 1979

by

Cynthia D. Donaldson and Edward J. Koszalka

Potentiometric head of the Lloyd aquifer (Cretaceous Lloyd Sand Member of the Raritan Formation) is monitored continuously by the U.S. Geological Survey, particularly in Nassau and Queens Counties, because this aquifer is a major source of water for public-supply and industrial use. The January 1979 water-level measurements from 41 wells in Queens County, Nassau County, and western Suffolk County were used to prepare this map.

General trends of the potentiometric surface are similar to those of the upper glacial and Magothy aquifers (Donaldson and Koszalka, 1982a, 1982b), with a depression in the western part of the island gradually rising to an east-west mound in the central part. The mound coincides with the glacial moraine. The range in potentiometric-surface altitude is from 43 feet above National Geodetic Vertical Datum of 1929 (NGVD) in central Suffolk County to 27 feet below NGVD in central Queens County.

The potentiometric surface of the Lloyd aquifer has changed but little since 1975 (Rich, Prince, and Spinello, 1976) except for a 2-foot rise in the mound in the central part of the island and a 6-foot decline in the depression in central Queens County.

In eastern Suffolk County, the Lloyd aquifer contains saline water.

This study was done in cooperation with the Nassau County Department of Public Works, Suffolk County Department of Health Services, Suffolk County Water Authority, New York State Department of Environmental Conservation, and many of the water companies on Long Island.

REFERENCES

Donaldson, C. D., and Koszalka, E. J., 1982a, Water table on Long Island, New York, in March 1979: U.S. Geological Survey Open-File Report 82-163, 2 sheets.

_____ 1982b, Potentiometric surface of the Magothy aquifer, Long Island, New York, in March 1979: U.S. Geological Survey Open-File Report 82-160, 2 sheets.

Rich, C. A., Prince, K. R., and Spinello, A. G., 1975, Potentiometric surface of the Lloyd aquifer on Long Island, New York, in January 1975, U.S. Geological Survey open-file report, 12 p.

EXPLANATION

- • 124 / 13.97 — Observation well and number. Prefixes Q, N, and S for Queens, Nassau, and Suffolk Counties, respectively are not shown. Lower number is altitude of potentiometric surface, in feet above or below (-) NGVD of 1929.
- —10— Potentiometric-surface contour. Solid where approximately known; dashed where inferred. Contour interval 5 feet. Hachures indicate depressions. NGVD of 1929.
- Inferred limit of the Lloyd aquifer.

Base from U.S. Geological Survey, 1:250,000 scale
Hartford, 1970; New York, 1969; Providence, 1969

POTENTIOMETRIC SURFACE OF THE LLOYD AQUIFER, LONG ISLAND, NEW YORK, IN JANUARY 1979