

INTRODUCTION

The principal aquifers in upstate New York are generally composed of glacial and alluvial deposits that partly fill bedrock valleys. Ground water in these aquifers can occur under either water-table (unconfined) or artesian (confined) conditions. Agricultural, industrial, or urban development has taken place on many of these valley-fill aquifers because they form level areas suitable for development and generally provide an ample ground-water supply.

The typically high permeability of these valley deposits and the generally shallow depth to the water table makes ground water in these aquifers susceptible to contamination from landfills, salt-storage stockpiles, hydrocarbon fuel storage, chemical plants, and other industrial facilities with a potential for contaminant leakage. In addition, urban and agricultural runoff, septic-tank leachate, and other nonpoint sources of contamination are capable of degrading the quality of the underlying ground-water reservoir over large areas.

Purpose and Scope

To facilitate management decisions by State and local water agencies regarding present or potential contamination of ground water, the U.S. Geological Survey, in cooperation with the New York State Department of Health, began a study in 1980 to define the hydrogeology of 18 selected high-use aquifers in upstate New York. Of these, 11 aquifers have been studied and the results published (Waller and Finch, 1982). As a continuation of these efforts, the U.S. Geological Survey, in cooperation with the New York State Department of Environmental Conservation, embarked on a study in 1983 to investigate the hydrogeology of the remaining seven high-use aquifers. Each aquifer report in this series consists of a set of 7 1/2-minute maps that describe the hydrogeology of the aquifer, including well locations, bedrock topography, surficial geology with geologic sections, land use, and soil permeability.

CLIFTON PARK AREA

The sand and gravel deposits in the Clifton Park area form one of the 18 primary aquifers in upstate New York being assessed by the Survey. The aquifers in this 75-square-mile area serve approximately 22,000 people through 32 separate public water-supply distribution systems (New York State Department of Health, 1981), and also serve many businesses, industries, and individual home owners who obtain water from privately owned wells. Average daily ground-water pumpage from the 32 public-supply systems was approximately 1.85 million gallons per day during 1981 (New York State Department of Health, written commun., 1983). This figure is somewhat less than the total withdrawal rate from the aquifer system because it does not include commercial, industrial, or private ground-water pumpage.

LOCATION OF WELLS AND TEST HOLES

This map shows the location of wells and test holes from which hydrogeologic information for this report was obtained. The data are available from the U.S. Geological Survey in Albany, N.Y., and in previously published hydrologic reports by the Survey. All test holes and many of the public and private wells were field-located by Survey personnel. Some wells shown on other plates in this report may not be shown on plate 1 because their exact locations were uncertain.

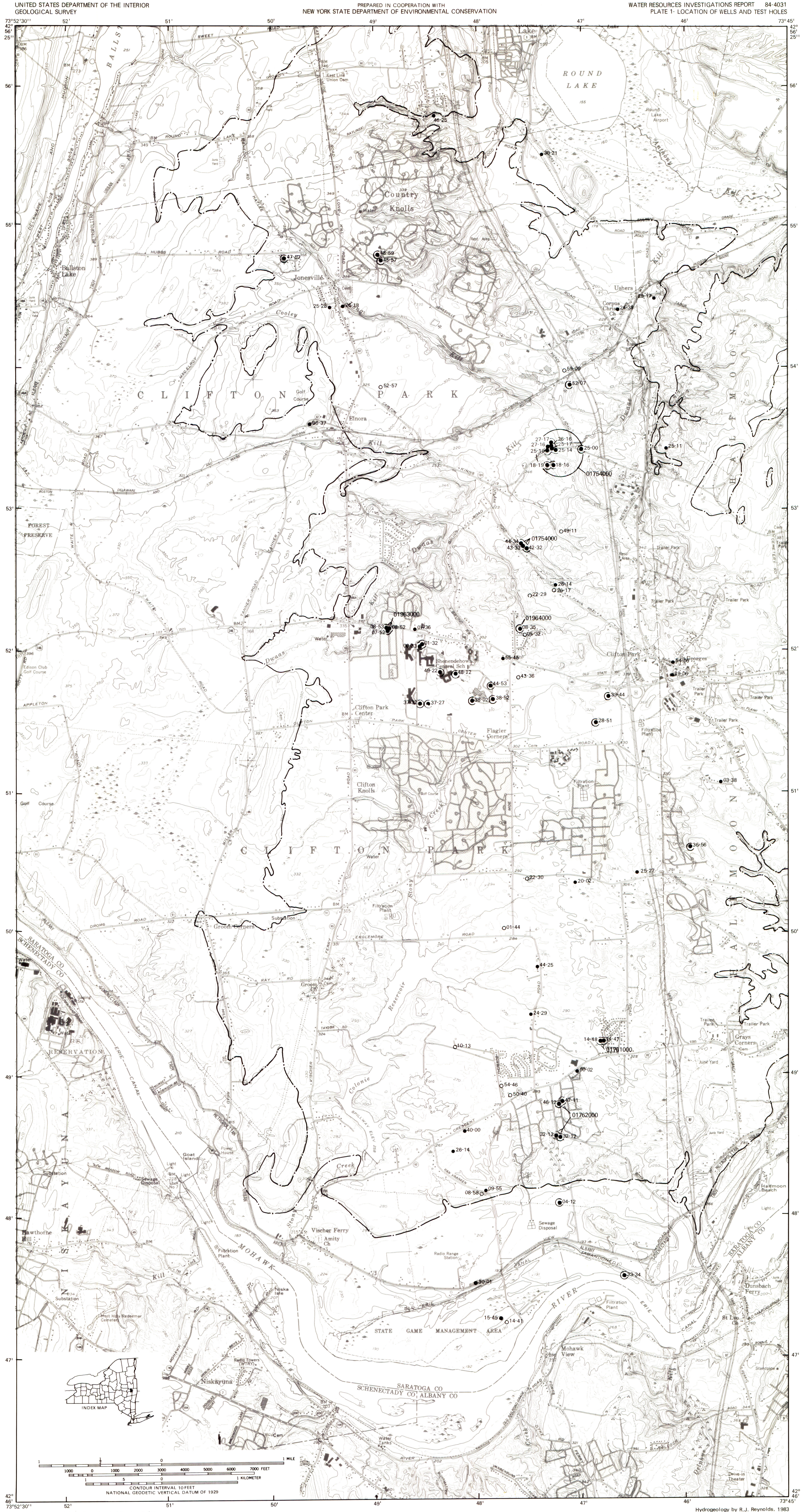
Wells shown here are identified by a four-digit hyphenated number representing the seconds of latitude and longitude written together. For example, a well with a latitude of 42°51'39" and a longitude of 73°46'44" is shown with the number 39-44 adjacent to it. Some public supply wells are further identified by a community water-supply number assigned by the New York State Department of Health.

EXPLANATION

- 43-36 TEST HOLE--test hole or test boring that penetrates bedrock. Number is well location, in seconds of latitude and longitude.
- 08-35 PUBLIC-SUPPLY WELL--supply well that serves housing developments, schools, or large public water-supply districts. May include auxiliary supply wells and observation wells. Upper number is well location, in seconds of latitude and longitude; lower number is community water-supply number assigned by New York State Department of Health.
- 24-29 DOMESTIC WELL--well that serves an individual residence or single building. Number is well location, in seconds of latitude and longitude.
- LIMIT OF SHALLOW (WATER-TABLE) AQUIFER--indicates approximate areal extent of surficial sand that forms the aquifer.

SELECTED REFERENCES

- Heath, R. C., Mack, F. K., and Tannenbaum, J. A., 1963, Ground-water studies in Saratoga County, New York: New York State Water Resources Commission Bulletin GW-49, 128 p.
- New York State Department of Health, 1981, Report on ground-water dependence in New York State: New York State Department of Health Report, 49 p.
- Waller, R. M., 1983, Ground-water potential of the Capital District buried-valley deposits, in Dineen, R. J., and Hanson, E. L., Bedrock topography and glacial deposits of the Colonie channel between Saratoga Lake and Coeymans, New York: New York State Map and Chart Series, no. 37, 55 p.
- Waller, R. M., and Finch, A. J., 1982, Atlas of eleven selected aquifers in New York: U.S. Geological Survey Water-Resources Investigations 82-553, 255 p.



HYDROGEOLOGY OF THE CLIFTON PARK AREA, SARATOGA COUNTY, NEW YORK

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LOCATION OF WELLS AND TEST HOLES