Base from New York State Department of Transportation, Mechanicville, N.Y., 1974, 1:24,000

SCALE 1 : 24,000
0 .5 1 MILE
0 .5 1 KILOMETER
CONTOUR INTERVAL 10 FEET
DATUM IS SEA LEVEL

Surficial geology by D.H. Cadwell and R.J. Dineen 1980-88, New York State Geological Survey - New York State Museum

EXPLANATION

● YEAR-ROUND PUMPING SITE

Average Pumpage (in gallons per day)

●—17 50,000 or greater. Number within symbol refers to supplier listed in table 3

——— CONTACT—between adjacent surface deposits. Approximately located, dashed where inferred

HYDROGEOLOGIC CHARACTERISTICS OF SURFICIAL DEPOSITS

Deposits of High Permeability

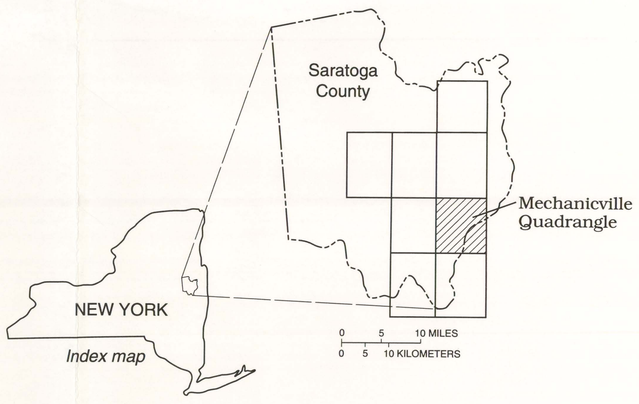
	Symbol	Description
HOLOCENE	al	FLOOD-PLAIN ALLUVIUM—recent deposits derived from frequent flooding within a stream valley; generally fine sand and gravel, although sediments commonly reflect the character of the deposits that the stream traverses. Up to 10 ft thick. Alluvium associated with large streams and rivers has potential for water supply through induced infiltration of surface water into the aquifer during pumping periods. Alluvium is generally not a major source of water along small stream valleys, where its thickness or extent is limited.
	alf	ALLUVIAL FAN—fan-shaped accumulation of alluvium made by a stream as it flows from sloped valley walls onto a level flood plain; poorly stratified silt, sand, and boulders. Up to 20 ft thick. Generally permeable but of limited extent; commonly unsaturated.
	alt	ALLUVIAL TERRACE—deposits of fluvial sand and gravel with laterally continuous lenses of silt (flood-plain alluvium) deposited at a level higher than the recent flood plain. Up to 50 ft thick. These deposits are generally permeable but commonly unsaturated.
	d	DUNES—fine to medium sand, well sorted, stratified; generally reworked lacustrine sand and deltaic deposits. Up to 50 ft thick. Permeable but commonly unsaturated.
	fg	FLUVIAL GRAVEL—fluvial sand and gravel, age uncertain; Up to 20 ft thick. Generally permeable, can be unsaturated.
PLEISTOCENE	k	KAME DEPOSIT—gravel and(or) sand, lateral variability in sorting, coarseness, thickness; deposited adjacent to ice. Includes kames, eskers, kame terraces, kame deltas; up to 100 ft thick. Ice-contact (kame) deposits in preglacial bedrock channels, such as the Colonie channel (Simpson, 1949) overlain by lacustrine silt and clay form a discontinuous, confined aquifer of variable thickness (up to about 100 ft) (Dineen and Hanson, 1983; Reynolds, 1985; Dunn Geoscience, 1981). This type of aquifer represents an important water source for several developments in the Town of Clifton Park (Dunn Geoscience, 1981; Reynolds, 1985). Well yields as high as 800 gal/min have been reported (Dunn Geoscience, 1981), although most supply wells that tap the confined aquifer yield far less as a result of well design, limited aquifer extent and permeability, or interference from other production wells.
	lb	BEACH SAND AND GRAVEL—well-sorted sand and gravel deposited as beaches, associated with large glacial lakes. Limited in areal extent and thickness; generally unsaturated.
	ls	LACUSTRINE SAND—sand deposits associated with large glacial lakes, generally a nearshore deposit or near a sand source; well sorted, stratified, generally quartz sand; up to 95 ft thick. Hydraulic properties of thin lacustrine sand deposits at the Saratoga National Historical Park (fig. 1) were investigated by Heath and Tannenbaum (1963), who estimated, from aquifer-test data, a horizontal hydraulic conductivity of about 94 ft/d and a storage coefficient of 0.16.

Deposits of Low Permeability

	Symbol	Description
HOLOCENE	pm	SWAMP DEPOSITS—peat, muck, organic silt and sand in poorly drained areas, generally 0 to 20 ft thick. Yields little water.
PLEISTOCENE	cd	COMPLEX DRIFT—material varies within short distances among ice-contact sand and gravel, lacustrine sand, silt, and clay, and till; highly variable permeability.
	lsc	LACUSTRINE SILT AND CLAY—generally a laminated silt and clay deposited in proglacial lakes; maximum thickness is 275 ft in one part of the Colonie bedrock channel (Reynolds, 1985). Typically yields little water. Generally is a confining unit where underlain by permeable deposits (buried-valley aquifers).
	t	TILL—lodgment or ablation till of variable thickness (up to 250 ft) and texture (clay, silty clay, bouldery clay). Can yield small amounts of water to large-diameter (2 ft or greater) dug wells; the water is derived primarily from localized sand lenses within the till.
	tt	THIN TILL—variable mantle of rock debris and till; sporadic bedrock outcrops; up to 10 ft thick. Yields little water.

Other Symbols

af	ARTIFICIAL FILL
r	BEDROCK—predominantly shale, but sandstone, carbonates, and crystalline rock are present in the northwestern part of the study area. Permeability is variable.
w	WATER



SURFICIAL GEOLOGY AND LOCATIONS OF BURIED BEDROCK CHANNELS AND GROUND-WATER PUMPING FACILITIES, SARATOGA COUNTY, NEW YORK

By
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1992

PLATE 6.--MECHANICVILLE QUADRANGLE