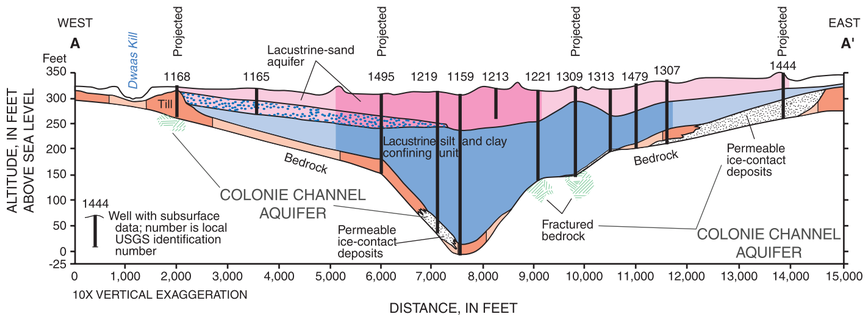
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

IN COOPERATION WITH THE
TOWN OF CLIFTON PARK WATER AUTHORITY

WATER-RESOURCES INVESTIGATIONS REPORT 01-4104
Paul M. Heisig, 2002, Ground-Water Resources of the Clifton Park Area, Saratoga County, New York – PLATE 1



A.2 Vertical section A-A' (location shown on A.1) – relations among hydrogeologic units in the Clifton Park study area.

EXPLANATION

LACUSTRINE SAND AQUIFER (UNCONFINED) (pl. 1A.1, 1A.2) (areal distributions are approximate)
Total thickness (saturated and unsaturated) of lacustrine sand deposits (typically fine sands):

- ≥ 60 to 100 feet
- ≥ 20 to <60 feet
- 0 to < 20 feet
- Lacustrine-deltaic (medium to coarse) sand and gravel

ALLUVIAL AQUIFER (Generally unconfined, locally confined) (pl.1A.1)

- Approximate extent of coarse alluvial deposits

COLONIE CHANNEL AQUIFER (HIGHLY CONFINED to UNCONFINED) (pl. 1A.1)

- Permeable ice-contact deposits (pl. 1A.2)
- –20– Line of permeable ice-contact deposits of equal thickness, in feet; Dashed where inferred. Contour interval variable. (pl. 1A.3)
- Well tapping fractured bedrock immediately below the bedrock surface or bedrock-derived gravel at the bedrock surface.

HYDROGEOLOGIC SETTINGS (DEGREE OF CONFINEMENT) OF COLONIE CHANNEL AQUIFER (pl. 1A.2, 1A.3)
(areal distributions are approximate):

INCREASING AQUIFER CONFINEMENT

UNCONFINED SETTING – aquifer can receive direct recharge from precipitation or through infiltration or leakage of ground water from overlying lacustrine or aeolian sand.

- Permeable unconsolidated sediments
- Fractured bedrock outcrop

VARIABLY CONFINED SETTING – aquifer is overlain by till, till and thin (<20 feet) lacustrine clay, or silt (or clay)-bound ice-contact deposits. This setting may be characterized by locally confined conditions where the units are continuous. Till appears to be a less effective confining unit than lacustrine silt and clay in some areas, and may permit recharge to underlying ice-contact deposits or bedrock. Till is typically thinner and less continuous than lacustrine silt and clay and may have permeable washed zones or fractures, or may be associated with ice-contact deposits with permeable zones that can act as "windows" for recharge. Water levels or water-quality at several wells with logs that penetrate till or poorly-permeable ice-contact deposits indicate unconfined or locally confined conditions.

- <20 feet of till, till with < 20 feet of lacustrine silt and clay, or poorly-permeable ice-contact deposits
- 20 to 75 feet of till, till with < 20 feet of lacustrine silt and clay, or poorly-permeable ice-contact deposits

CONFINED SETTING – aquifer is overlain by lacustrine silt and clay that appears continuous over much of the central Colonie Channel. Chemical composition of areas underlying thick lacustrine silt and clay is characteristic of confined conditions (isolation from the atmosphere), and wells that tap these areas typically show high barometric efficiency, which also indicates strong confinement. Underlying conditions may be semiconfined where the unit thins near unconfined areas near the channel edges.

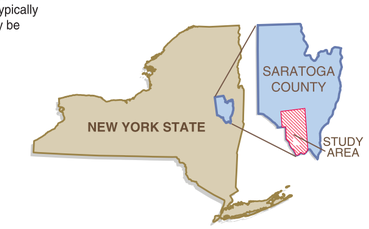
- 20 to 60 feet of lacustrine silt and clay
- >60 feet of lacustrine silt and clay; typically less than 150 feet with a maximum of 230 feet

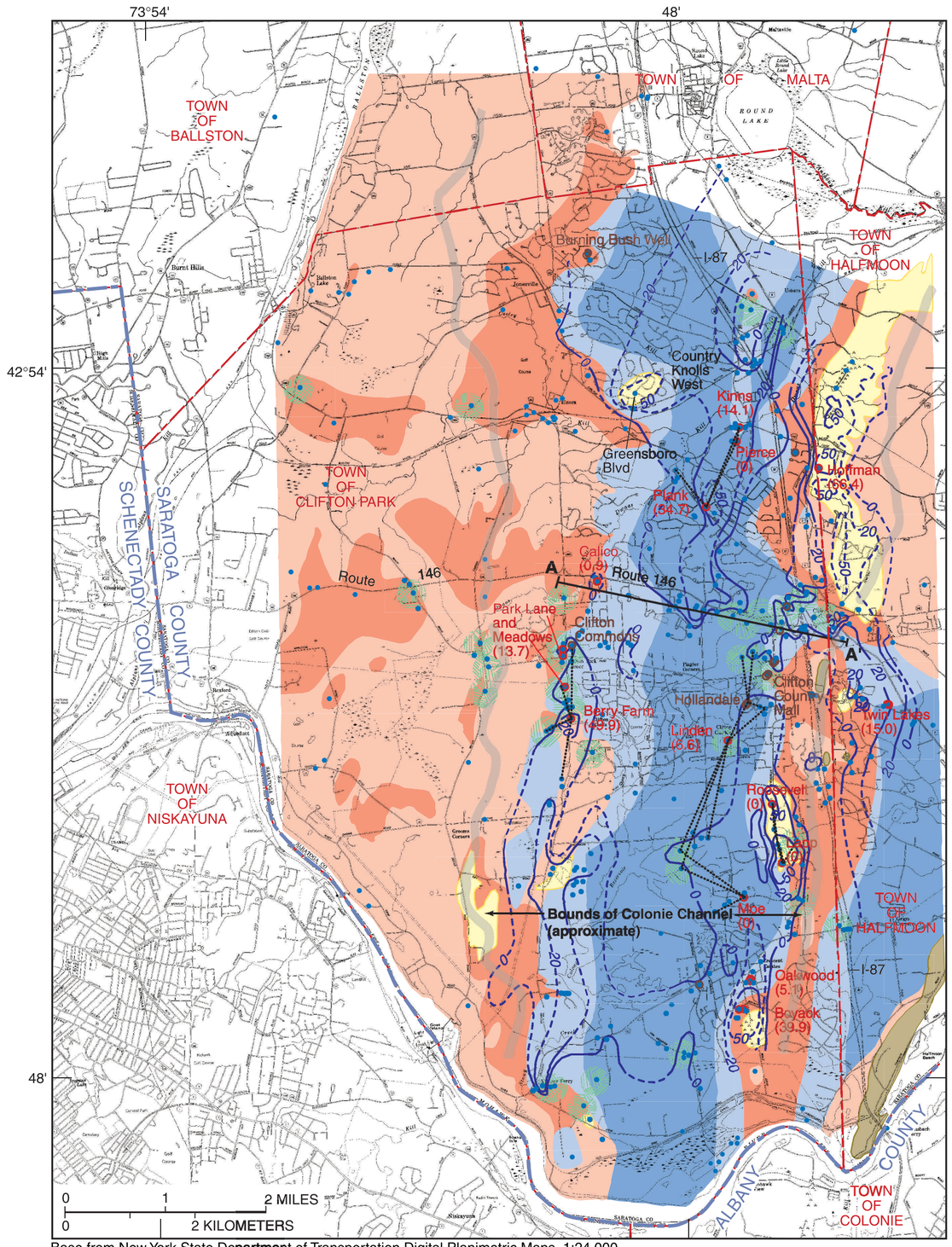
WELLS (pl. 1A.1, 1A.3)

- ••••• HYDRAULIC INTERCONNECTION OF WELLS – dotted line connects pumping wells to wells that show direct water-level responses.
- WELL OR TEST HOLE FOR WHICH SUBSURFACE DATA ARE AVAILABLE (stored in the USGS' National Water Information System (NWIS) or in paper files at the Troy, NY office)

Barney (0)
Clifton Commons

SUPPLY WELL – includes wells used for public supply (red) and for other uses (brown); Town of Clifton Park and Town of Halfmoon production well names are followed, in parentheses, by May-August 1998 pumpage total, in millions of gallons.





Base from New York State Department of Transportation Digital Planimetric Maps, 1:24,000.
Burnt Hills 1991, Round Lake 1991, Schenectady 1993, Niskayuna 1992

A.3 Thickness and extent of the Colonie Channel aquifer and its hydrogeologic settings, including the presence or absence of confining units, and their type and thickness.

Plate 1. Hydrogeologic Framework of the Clifton Park Area, Saratoga County, New York
By Paul M. Heisig, 2002