DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
TEMPORARY STATE COMMISSION ON TUG HILL
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER-RESOURCES INVESTIGATIONS REPORT 88-4014
PLATE 2B. SURFICIAL GEOLOGY
WILLIAMSTOWN AND WESTDALE QUADRANGLES

EXPLANATION

- w — Open-water areas
- a — Alluvial silt, sand, and gravel; stream deposits of postglacial time; unconsolidated and generally permeable
- pm — Peat, marl, muck, and clay; bog deposits of postglacial to recent time
- as — Eolian sand; wind-deposited sand that form ridges or mounds; fine to medium grained; oxidized and moderately permeable
- lss — Lake silt and fine sand; offshore deposits in proglacial or postglacial lakes; thin bedded to massive; low to moderate permeability
- ksg — Kame, kame-delta, and kame-terrace sand and gravel; coarse sand to cobble gravel distributed on a glacier and later deposited on ground as ice melted; some sorting; unconsolidated except for some secondary calcite cementation; highly permeable
- osg — Outwash sand and gravel; coarse sand to cobble gravel deposited by streams flowing from former ice sheets; stratified; well sorted; highly permeable
- at — Ablation till; mixture of clay, silt, sand, and boulders deposited from drift laid down after ice melted beneath it; unconsolidated; noncompact and generally slightly coarser than lodgment till; variable permeability. Typically, ablation till overlies lodgment till
- lt — Lodgment till; mixture of clay, silt, sand, and boulders deposited at base of glacier; poorly sorted; compact and impermeable
- r — Bedrock; sedimentary rocks

AQUIFER BOUNDARY--Dashed where valley aquifer is adjacent to permeable material on uplands and valley walls for which there are little data to determine whether deposits are saturated year round. These areas would contribute recharge to the valley aquifer

GROUND-WATER DIVIDE

AREA OF TILL WITHIN AQUIFER

C — C' LINE OF GEOLOGIC SECTION

57-03 Well used to draw geologic section

0 ½ 1 MILE
0 ½ 1 KILOMETER

Base from U.S. Geological Survey, 1960; revised by New York State Department of Transportation, Williamstown and Westdale, 1978, 1:24,000

Geology modified from Miller, 1981, and Chambers, 1978

HYDROGEOLOGY AND WATER QUALITY OF THE TUG HILL GLACIAL AQUIFER IN NORTHERN NEW YORK

By
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