DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
NEW YORK STATE DEPARTMENT OF HEALTH

OPEN-FILE REPORT 81-1022
(SHEET 5 OF 7)

POTENTIOMETRIC SURFACE

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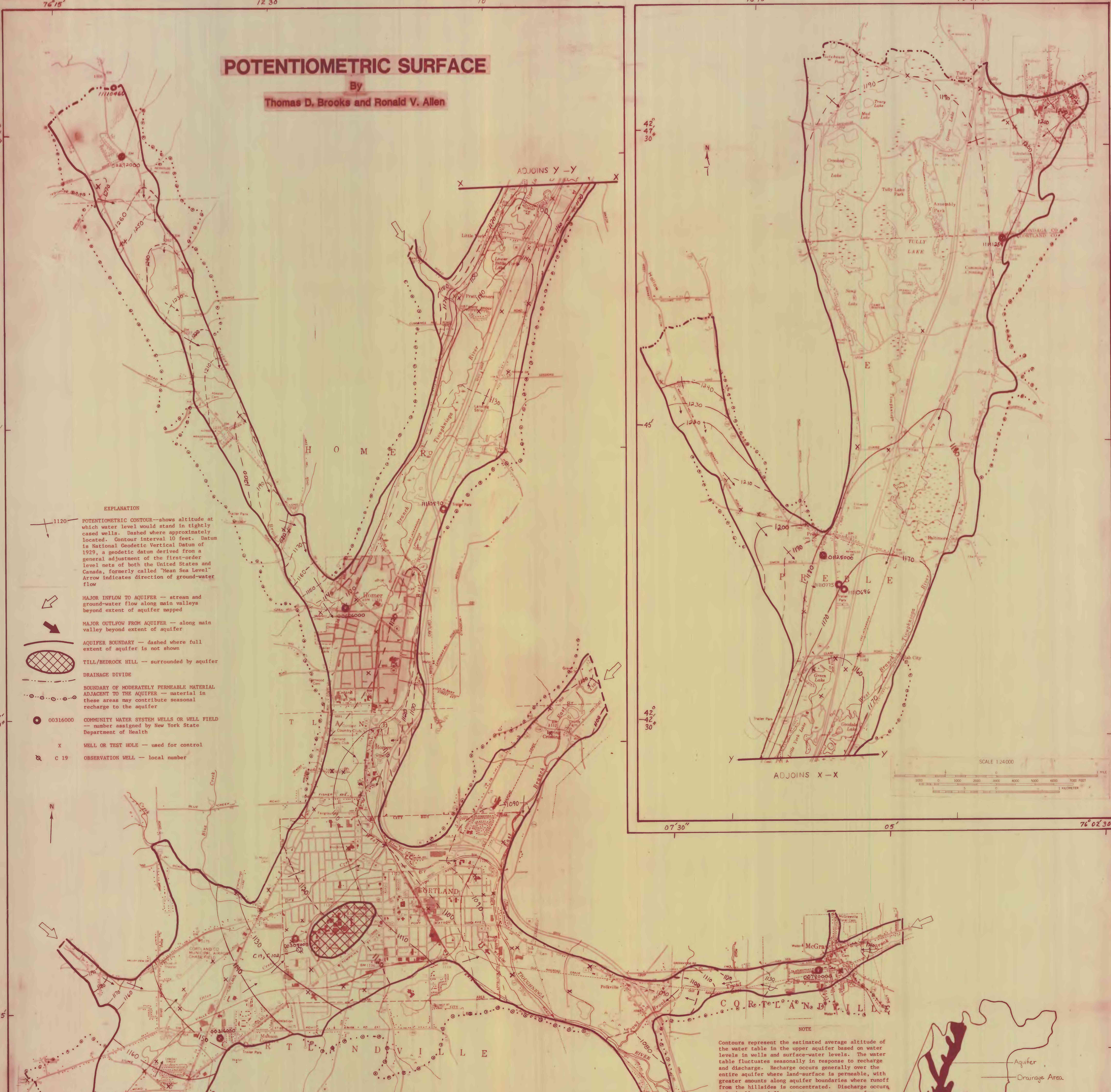


EXPLANATION

POTENTIOMETRIC CONTOUR--shows altitude at which water level would stand in tightly cased wells. Dashed where approximately located. Contour interval 10 feet. Datum is National Geodetic Vertical Datum of 1929, a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Level" Arrow indicates direction of ground-water flow

MAJOR INFLOW TO AQUIFER -- stream and ground-water flow along main valleys beyond extent of aquifer mapped

MAJOR OUTLFOW FROM AQUIFER -- along main valley beyond extent of aquifer

AQUIFER BOUNDARY -- dashed where full extent of aquifer is not shown

TILL/BEDROCK HILL -- surrounded by aquifer

DRAINAGE DIVIDE

BOUNDARY OF MODERATELY PERMEABLE MATERIAL ADJACENT TO THE AQUIFER -- material in these areas may contribute seasonal recharge to the aquifer

00316000 COMMUNITY WATER SYSTEM WELLS OR WELL FIELD -- number assigned by New York State Department of Health

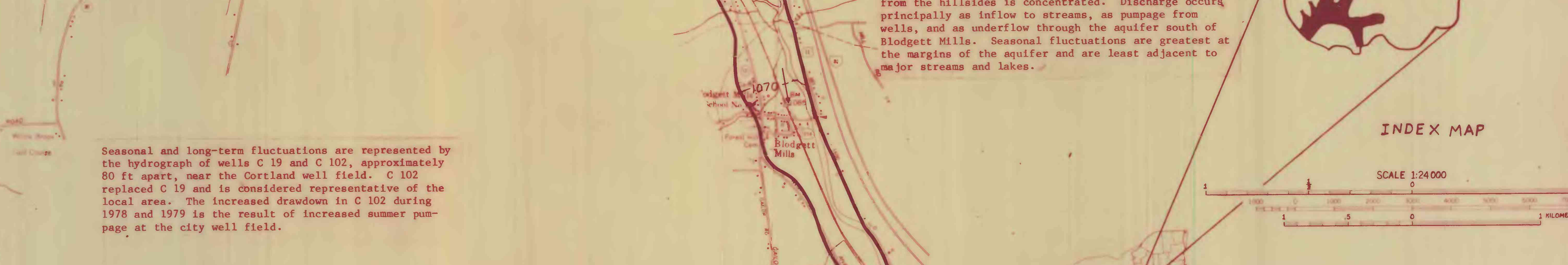
X WELL OR TEST HOLE -- used for control

C 19 OBSERVATION WELL -- local number

NOTE

Contours represent the estimated average altitude of the water table in the upper aquifer based on water levels in wells and surface-water levels. The water table fluctuates seasonally in response to recharge and discharge. Recharge occurs generally over the entire aquifer where land-surface is permeable, with greater amounts along aquifer boundaries where runoff from the hillsides is concentrated. Discharge occurs principally as inflow to streams, as pumpage from wells, and as underflow through the aquifer south of Blodgett Mills. Seasonal fluctuations are greatest at the margins of the aquifer and are least adjacent to major streams and lakes.

Seasonal and long-term fluctuations are represented by the hydrograph of wells C 19 and C 102, approximately 80 ft apart, near the Cortland well field. C 102 replaced C 19 and is considered representative of the local area. The increased drawdown in C 102 during 1978 and 1979 is the result of increased summer pumpage at the city well field.



Hydrograph of Water Levels in Observation Wells, City of Cortland Well Field

REFERENCES

Buller, William, 1978, Hydrologic appraisal of the water resources of the Homer-Preble valley, New York: U.S. Geological Survey Water-Resources Investigations, Open-File Report 78-94, 31 p.

Cosner, O. J., and Harsh, J. F., 1978, Digital-model simulation of the glacial outwash aquifer, Otter Creek-Dry Creek basin, Cortland County, New York: U.S. Geological Survey Water-Resources Investigations, Open-File Report 78-71, 34 p.

BASE FROM NEW YORK STATE DEPARTMENT OF TRANSPORTATION CORTLAND, N.Y., 1974; HOMER, N.Y., 1974; MCGRAW, N.Y., 1974; OTISCO VALLEY, N.Y., 1978; TRUXTON, N.Y., 1974; TULLY, N.Y., 1978. 1:24,000

GEOHYDROLOGY OF THE VALLEY-FILL AQUIFER IN THE CORTLAND-HOMER-PREBLE AREA, CORTLAND AND ONONDAGA COUNTIES, NEW YORK

1981

HYDROLOGY FROM O.J. COSNER AND J.F. HARSH(1978) AND WILLIAM BULLER(1978); MODIFIED BY TOM BROOKS AND R.J. REYNOLDS, 1981