

WELL YIELD

By
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ADJOINS Y-Y

ADJOINS X-X

SCALE 1:24,000

EXPLANATION

ESTIMATED WATER YIELD FROM A PROPERLY CONSTRUCTED WELL,
IN GALLONS PER MINUTE

1	Less than 50	3	500 to 1,000
2	50 to 500	4	Greater than 1,000

NOTE

Map is based on data from pumping tests by the U.S. Geological Survey (Cooner, 1978) and tests by engineering consultants (unpublished data). In areas where little information was available (Homer-Preble Valley and the area east of Cortland), potential yield was estimated by calculating the theoretical specific capacity of a well from a modified Theis equation (Walton, 1962, p. 12).

Specific capacity of a well is defined as its yield per unit of drawdown of the water level. Thus, a well yielding 100 gal/min (gallons per minute) with a drawdown of 5 ft has a specific capacity of 20 gal/min per ft of drawdown. Conversely, the use of specific-capacity data allows the computation of potential well yields from an aquifer for any well design if the value of available drawdown is known.

Well yields are only indicators of the maximum long-term yields of individual wells completed in the aquifers. Maximum long-term yields may be larger or smaller than those shown because yields are affected by many hydrologic factors that were not determined during this investigation.

REFERENCES

Cooner, O. J., and Hersh, 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.

Walton, W. C., 1962, Selected analytical methods for well and aquifer evaluation: Illinois State Water Survey Bulletin 49, 81 p.

- BOUNDARY OF WELL-YIELD UNITS
- 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 — materials 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

INDEX MAP

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

HYDROLOGY BY T.S. MILLER, 1981

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