

SURFICIAL GEOLOGY

By  
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INTRODUCTION

The mapping was undertaken to compile information on the limits and characteristics of one of the principal aquifers in upstate New York, the valley-fill aquifer. The valley-fill aquifer in the Bath area underlies a 38 square mile area along the Cohocton River valley. It is a primary source of water for rural residents, industry, and community water systems in central Steuben County.

Findings relating to the aquifer are presented in this series of maps to provide water managers with current knowledge to aid in protecting and managing this prolific aquifer. The hydrologic data used in preparing these maps are available in the cited references and in the New York Subdistrict Office of the U.S. Geological Survey in Ithaca, New York.

The mapping is a continuation of a series begun in 1980 by the U.S. Geological Survey in cooperation with the New York State Dept. of Health. The style and format have been freely adapted from one of the reports in this series (Miller and others, 1982).

EXPLANATION

GEOLOGIC CONTACTS - dashed where approximately located.

AQUIFER BOUNDARY - dashed where full extent of aquifer is not shown; aquifer extends up some small valleys and up and down valley of principal stream. The boundaries of the aquifer are interpreted to extend outward to where an estimated saturated thickness of less than 15 feet occurs. This aquifer is continuous with the Corning aquifer to the south, and the Cohocton aquifer to the northwest.

LINE OF SECTION--see sheet 2, "Geologic Sections"

Well on which geologic sections, sheet 2, are based; numbers are seconds of latitude-longitude after Randall (1972)

QUATERNARY

w  
Open-water areas

als  
Alluvial silt and sand;  
floodplain deposits of postglacial to recent age;  
low permeability

alg  
Alluvial sand and gravel;  
alluvial fan and stream deposits of postglacial to recent age;  
high permeability

pm  
Peat, marl, muck, and clay;  
bog and swamp deposits of postglacial to recent age;  
often occupy depressions of postglacial lakes;  
low to moderate permeability

lsc  
Lake silt and/or clay;  
thin bedded to massive offshore deposits  
in proglacial and postglacial lakes;  
low permeability

osg  
Outwash sand and gravel;  
stratified and well sorted glacial meltwater deposits;  
high permeability

ic  
Ice contact sand and gravel;  
kames, kame terraces, and kame moraines;  
poorly to moderately well sorted and stratified;  
high permeability

idd  
Ice disintegration deposits;  
mixed sand and gravel, silt and clay, and till;  
deposited at the edge of a stationary ice sheet;  
variable permeability, generally moderate to high

t/r  
Till over bedrock (undifferentiated);  
unsorted glacial deposit of silt, sand, clay, cobbles,  
gravel, and boulders, generally less than 10 feet thick;  
low permeability

REFERENCES

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Holliday, E.F., 1969, An appraisal of the groundwater resources of the Susquehanna River basin in New York State, U.S.G.S. Open File Report  
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