DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE NEW YORK STATE DEPARTMENT OF HEALTH

OPEN-FILE REPORT 82-84
(SHEET 3 OF 6)

AQUIFER THICKNESS AND GEOLOGIC SECTIONS

By

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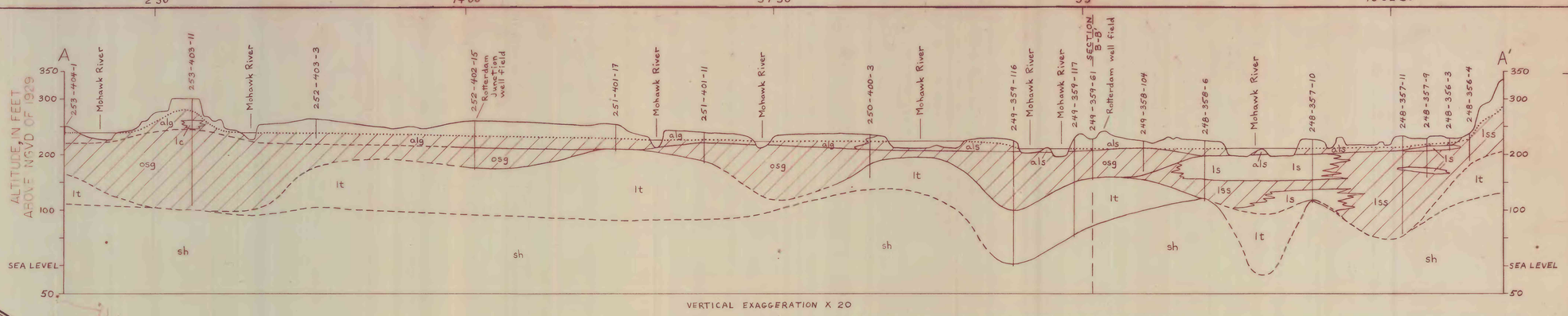


EXPLANATION OF AQUIFER THICKNESS MAP

TILL HILL--surrounded by aquifer

AREAS LACKING SUBSURFACE DATA

20 — LINE OF EQUAL THICKNESS OF AQUIFER--dashed where approximately located. Interval 20 feet

AQUIFER BOUNDARY--dashed where full extent of aquifer is not shown. Areas not shown are small, not hydrologically significant, and do not have community wells

BOUNDARY BETWEEN MAJOR AND MINOR AQUIFERS--minor aquifers in sand and silt are in upland areas in northeast corner and along southern edge of mapped area, are less permeable than major sand and gravel aquifer in Mohawk River Valley

A—A' LINE OF GEOLOGIC SECTION

WELL SYMBOLS

01247000 COMMUNITY WATER SYSTEM WELL OR WELL FIELD--numbered by New York State Department of Health

249-359-61 WELL OR TEST HOLE--on which geologic section is based

X DATA POINT

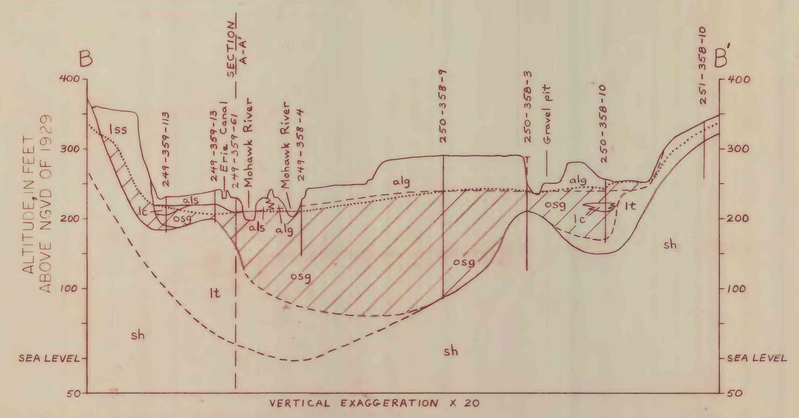
NOTE

The map shows the estimated thickness of permeable sediments from the land surface to the top of the first extensive unit of relatively low permeability such as bedrock, till, or lake silt and clay. Lenses of silt and clay more than 10 feet thick, where they were judged to be significant, continuous, and not part of the aquifer, were omitted in the determination of thickness. The sediments included as aquifer material range from very fine sand and silty sand to coarse pebble and cobble gravel. Areas within the aquifer where thickness is shown as zero, namely north of Rotterdam Junction and northeast of Scotia, are underlain primarily by lake silt and clay. In the southern and northeastern parts of the aquifer, lake sands and silty sands are considered to be minor aquifers and are therefore included in aquifer thickness. Well logs used to compute thickness were taken from Winslow and others (1965), Haley and Aldrich (1981), and files of the U.S. Geological Survey in Albany, New York.

REFERENCES CITED

Haley and Aldrich, Inc., 1981, Report on hydrogeological evaluation of proposed Rotterdam Square, Town of Rotterdam, Schenectady County, New York: Cambridge, Mass., Prepared for Wilmorite, Inc., Rochester, New York, 2 v., 32 p.

Winslow, J. D., and others, 1965, Ground-water resources of eastern Schenectady County, New York, with emphasis on infiltration from the Mohawk River: New York State Water Resources Commission Bulletin 57, 148 p.



EXPLANATION OF GEOLOGIC SECTIONS

QUATERNARY	alg	Alluvial sand and gravel, with occasional lenses of silt; stream, fan, channel, and terrace deposits of postglacial age; moderate to high permeability
	als	Alluvial silty sand, with some clay and organic matter; floodplain deposits of recent age; low to moderate permeability
	lss	Lake sand and silt, with a few discontinuous lenses of sand and gravel; offshore deposits in proglacial or postglacial lakes; low to moderate permeability
	ls	Lake silt, with a few sand lenses; offshore deposits in proglacial or postglacial lakes; low permeability
	lc	Lake clay; offshore deposits in proglacial or postglacial lakes; very low permeability
	osg	Outwash sand and gravel, stratified and well sorted; deposited by streams originating at melting ice front; high permeability
	lt	Lodgement till; subglacial deposits of unstratified silty and sandy clay with occasional pebbles, cobbles and boulders and scattered lenses of sand and gravel; low permeability
ORDOVICIAN	sh	Shale bedrock; low to moderate permeability depending on extent of jointing and other fractures

PRINCIPAL AQUIFER

GEOLOGIC CONTACT--dashed where approximately located

WATER TABLE

249-359-113 WELL--numbered by Winslow and others (1965)

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. Vertical exaggeration X 20

Location of sections shown also on sheet 1, "Surficial Geology".

BASE FROM NEW YORK STATE DEPARTMENT OF TRANSPORTATION RATTERSONVILLE, N.Y., 1974; ROTTERDAM JUNCTION, N.Y., 1974; SCHENECTADY, N.Y., 1974. 1:24,000

GEOLOGY AND HYDROLOGY MAPPED IN 1981
SECTIONS MODIFIED FROM WINSLOW AND OTHERS, 1965

GEOHYDROLOGY OF THE VALLEY-FILL AQUIFER IN THE SCHENECTADY AREA, SCHENECTADY COUNTY, NEW YORK

1981