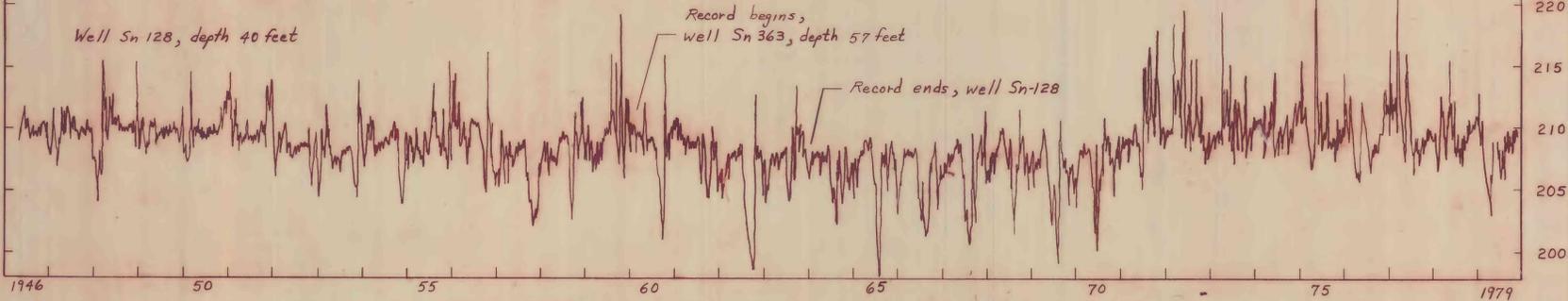


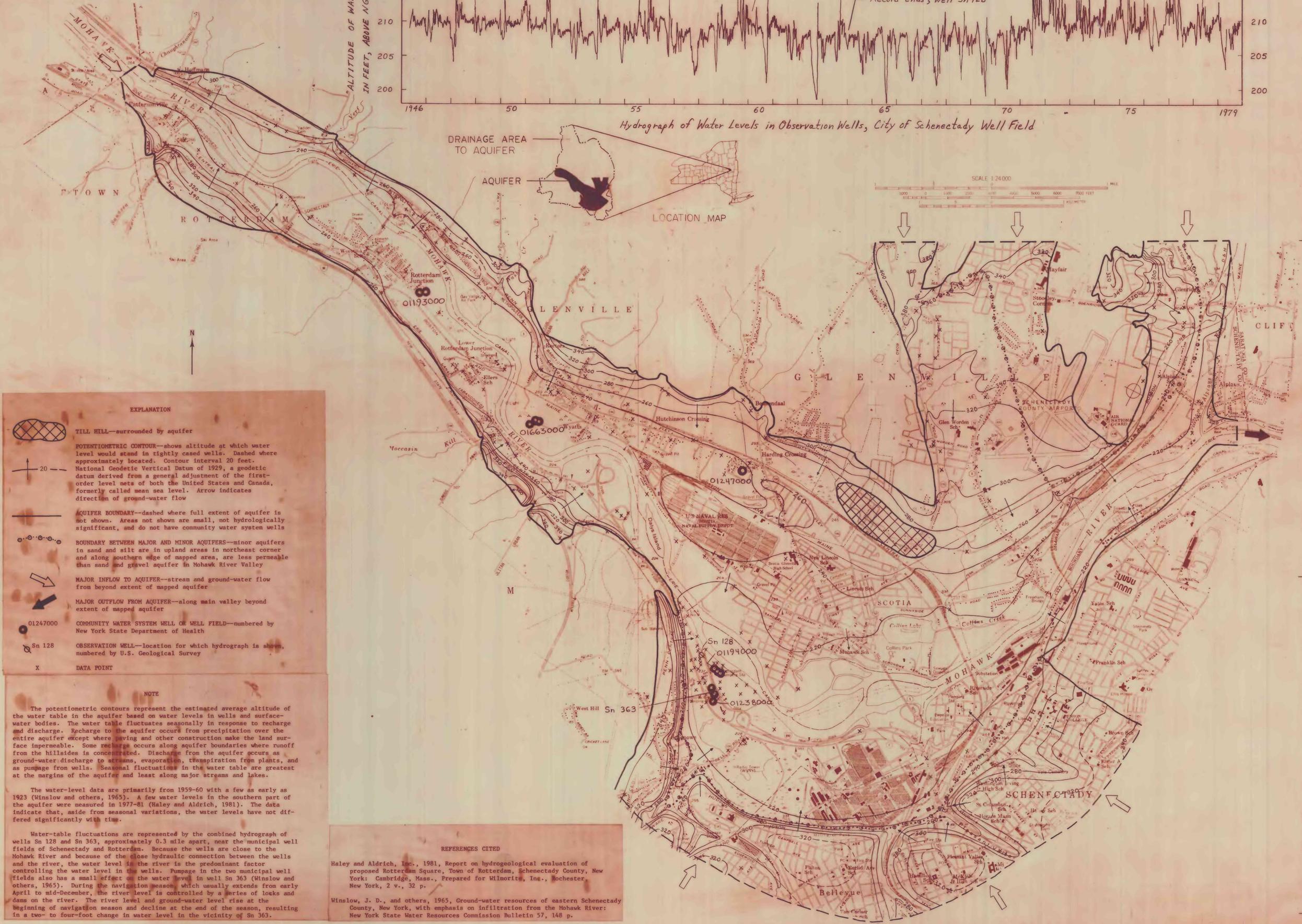
POTENTIOMETRIC SURFACE

By
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ALTITUDE OF WATER LEVEL,
IN FEET, ABOVE ANGL.D OF 1929



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



- EXPLANATION**
- TILL HILL—surrounded by aquifer
 - POTENTIOMETRIC CONTOUR—shows altitude at which water level would stand in tightly cased wells. Dashed where approximately located. Contour interval 20 feet. 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
 - AQUIFER BOUNDARY—dashed where full extent of aquifer is not shown. Areas not shown are small, not hydrologically significant, and do not have community water system 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 sand and gravel aquifer in Mohawk River Valley
 - MAJOR INFLOW TO AQUIFER—stream and ground-water flow from beyond extent of mapped aquifer
 - MAJOR OUTFLOW FROM AQUIFER—along main valley beyond extent of mapped aquifer
 - 01247000 COMMUNITY WATER SYSTEM WELL OR WELL FIELD—numbered by New York State Department of Health
 - Sn 128 OBSERVATION WELL—location for which hydrograph is shown, numbered by U.S. Geological Survey
 - X DATA POINT

NOTE

The potentiometric contours represent the estimated average altitude of the water table in the aquifer based on water levels in wells and surface-water bodies. The water table fluctuates seasonally in response to recharge and discharge. Recharge to the aquifer occurs from precipitation over the entire aquifer except where paving and other construction make the land surface impermeable. Some recharge occurs along aquifer boundaries where runoff from the hillsides is concentrated. Discharge from the aquifer occurs as ground-water discharge to streams, evaporation, transpiration from plants, and as pumping from wells. Seasonal fluctuations in the water table are greatest at the margins of the aquifer and least along major streams and lakes.

The water-level data are primarily from 1959-60 with a few as early as 1923 (Winslow and others, 1965). A few water levels in the southern part of the aquifer were measured in 1977-81 (Haley and Aldrich, 1981). The data indicate that, aside from seasonal variations, the water levels have not differed significantly with time.

Water-table fluctuations are represented by the combined hydrograph of wells Sn 128 and Sn 363, approximately 0.3 mile apart, near the municipal well fields of Schenectady and Rotterdam. Because the wells are close to the Mohawk River and because of the close hydraulic connection between the wells and the river, the water level in the river is the predominant factor controlling the water level in the wells. Pumpage in the two municipal well fields also has a small effect on the water level in well Sn 363 (Winslow and others, 1965). During the navigation season, which usually extends from early April to mid-December, the river level is controlled by a series of locks and dams on the river. The river level and ground-water level rise at the beginning of navigation season and decline at the end of the season, resulting in a two- to four-foot change in water level in the vicinity of Sn 363.

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 Wilmarite, 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.

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

HYDROLOGY MAPPED BY G.A. BROWN, 1981

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