DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

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NEW YORK STATE DEPARTMENT OF HEALTH

OPEN-FILE REPORT 82-85
(SHEET 1 OF 6)

SURFICIAL GEOLOGY AND GEOLOGIC SECTIONS

By
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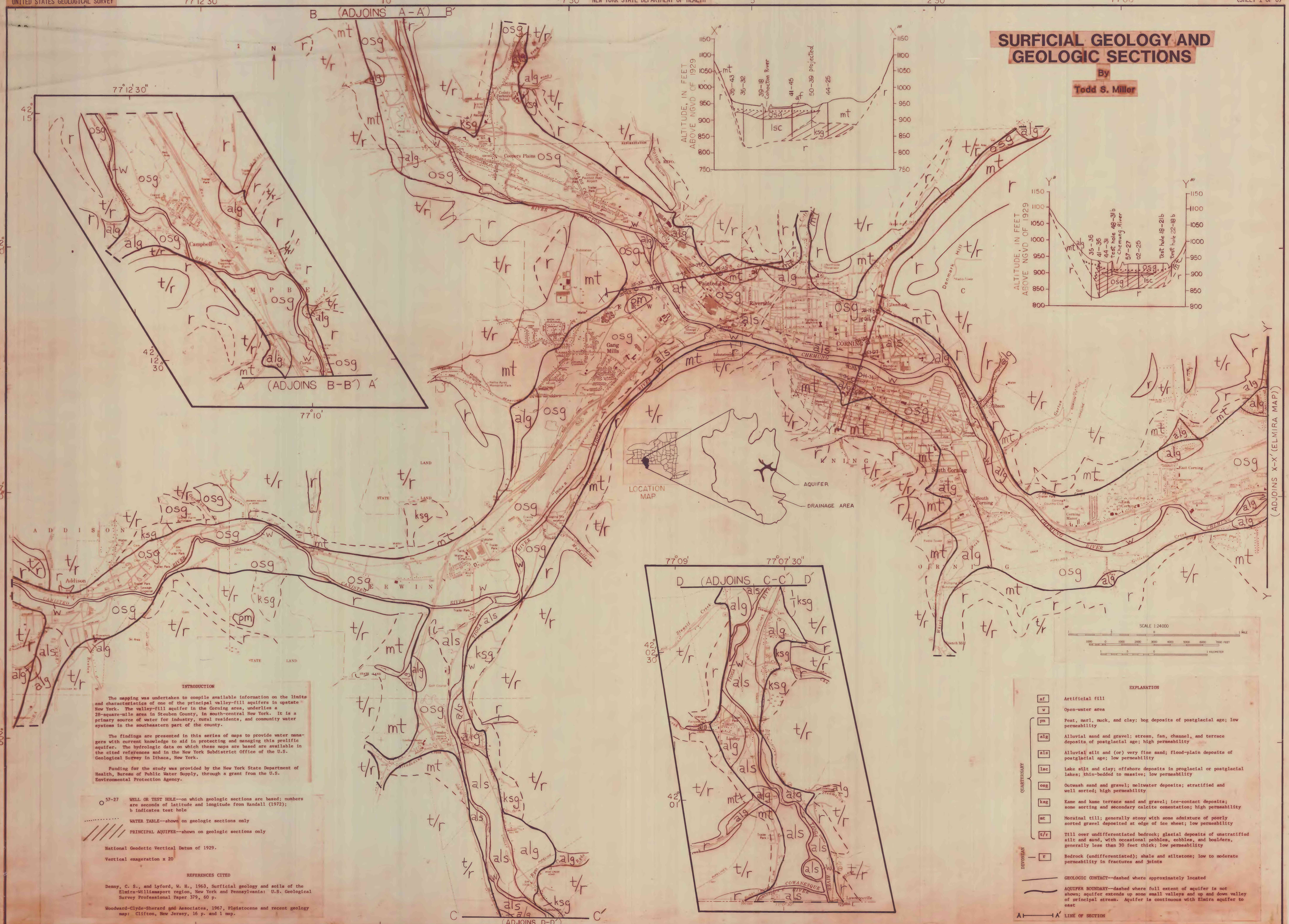

INTRODUCTION

The mapping was undertaken to compile available information on the limits and characteristics of one of the principal valley-fill aquifers in upstate New York. The valley-fill aquifer in the Corning area, underlies a 28-square-mile area in Steuben County, in south-central New York. It is a primary source of water for industry, rural residents, and community water systems in the southeastern part of the county.

The findings 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 on which these maps are based are available in the cited references and in the New York Subdistrict Office of the U.S. Geological Survey in Ithaca, New York.

Funding for the study was provided by the New York State Department of Health, Bureau of Public Water Supply, through a grant from the U.S. Environmental Protection Agency.

57-27 WELL OR TEST HOLE--on which geologic sections are based; numbers are seconds of latitude and longitude from Randall (1972); b indicates test hole

WATER TABLE--shown on geologic sections only

PRINCIPAL AQUIFER--shown on geologic sections only

National Geodetic Vertical Datum of 1929.

Vertical exageration x 20

REFERENCES CITED

Denny, C. S., and Lyford, W. H., 1963, Surficial geology and soils of the Elmira-Williamsport region, New York and Pennsylvania: U.S. Geological Survey Professional Paper 379, 60 p.

Woodward-Clyde-Sherard and Associates, 1967, Pleistocene and recent geology map: Clifton, New Jersey, 16 p. and 1 map.

EXPLANATION

af — Artificial fill

w — Open-water area

QUARTERNARY

pm — Peat, marl, muck, and clay; bog deposits of postglacial age; low permeability

alg — Alluvial sand and gravel; stream, fan, channel, and terrace deposits of postglacial age; high permeability

als — Alluvial silt and (or) very fine sand; flood-plain deposits of postglacial age; low permeability

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

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

ksg — Kame and kame terrace sand and gravel; ice-contact deposits; some sorting and secondary calcite cementation; high permeability

mt — Morainal till; generally stony with some admixture of poorly sorted gravel deposited at edge of ice sheet; low permeability

t/r — Till over undifferentiated bedrock; glacial deposits of unstratified silt and sand, with occasional pebbles, cobbles, and boulders, generally less than 30 feet thick; low permeability

DEVONIAN

r — Bedrock (undifferentiated); shale and siltstone; low to moderate permeability in fractures and joints

GEOLOGIC CONTACT--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. Aquifer is continuous with Elmira aquifer to east

A—A' LINE OF SECTION

BASE FROM NEW YORK STATE DEPARTMENT OF TRANSPORTATION ADDISON, N.Y., 1977; BIG FLATS, N.Y, 1976; CAMPBELL, N.Y., 1977; CATON, N.Y., 1977; CORNING, N.Y., 1977; SEELEY CREEK, N.Y., 1976. 1:24,000

GEOLOGY MODIFIED FROM A.D. RANDALL, UNPUBLISHED DATA, C.S. DENNY AND W.H. LYFORD (1963), AND WOODWARD-CLYDE-SHERARD AND ASSOCIATES, IN PART (1967)

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

1982