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| **Title:** | Hydrogeology of valley-fill aquifers and adjacent areas in eastern Chemung County, New York |
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| **Abstract:** | The extent, hydrogeologic framework, and potential well yields of valley-fill aquifers within a 151-square-mile area of eastern Chemung County, New York, were investigated, and the upland distribution of till thickness over bedrock was characterized. The hydrogeologic framework of these valley-fill aquifers was interpreted from multiple sources of surficial and subsurface data and an interpretation of the origin of the glacial deposits, particularly during retreat of glacial ice from the region. Potential yields of screened wells are based on the hydrogeologic framework interpretation and existing well-yield data, most of which are from wells finished with open-ended well casing.Water-resource potential is greatest within saturated sand and gravel in the Chemung River valley (nearly 1 mile wide), especially where induced infiltration of additional water from the Chemung River is possible. The second most favorable area is the Newtown Creek valley at the confluence of Newtown Creek with North Branch Newtown Creek east of Horseheads, N.Y. Extensive sand and gravel deposits within the Breesport, N.Y., area are largely unsaturated but may have greater saturation along the east side of Jackson Creek immediately north of Breesport. Till deposits confine sand and gravel along Newtown Creek at Erin, N.Y., and along much of the upper reach of North Branch Newtown Creek; this confining unit may limit recharge and potential well yield. The north-south oriented valleys of Baldwin and Wynkoop Creeks end at notched divides that imply input of glacial meltwater and limited sediment from outside of the present watersheds. These two valleys are relatively narrow but contain variably sorted sand and gravel, which, in places, may be capable of supplying modest-size community water systems. |
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| **Table of contents:** | AcknowledgmentsAbstractIntroductionDistribution and Origin of Glacial and Postglacial DepositsGroundwater-Resource Potential of Valley-Fill Aquifers in the Study AreaSources of Groundwater and Groundwater FlowConsiderations for Aquifer ProtectionSummaryReferences CitedAppendix 1. Well Data for Eastern Chemung County, New York. |
| **Links for report:** | **Report** PDF (7.56 MB) **Plate** (63.4 MB) 36” x 48”Appendixes**Appendix 1** (86 KB, xls) Plate.html |
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