

A HYDROSTRATIGRAPHIC MODEL OF GLACIAL DEPOSITS IN THE EASTERN MOHAWK LOWLANDS

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Groundwater resources in the eastern Mohawk Lowlands include several unconsolidated aquifers. The Broadalbin Interlobate Moraine forms a surface water and groundwater divide in the graben between the City of Amsterdam and the Sacandaga Reservoir. A narrow, buried valley links the Sacandaga and Amsterdam-Mohawk groundwater systems near the City of Gloversville. Holocene Mohawk River alluvium and Pleistocene Glacial Lake Iroquois outflow deposits are the source of potable water for the City of Schenectady. Pleistocene deposits also contain several aquifers in a complex of glacial advance and retreat sediments. Evidence for a minimum of three glacial advance and retreat sequences is recorded in the reach of the Mohawk between Schenectady and the Noses fault scarp and in the Schoharie Valley. The glacial deposits form stacked sequences of aquifers and aquicludes. The simplified hydrostratigraphic model consists of glacial advance and retreat deposits. The sequence consists of basal fine-grained, coarsening-upward, proglacial lake deposits, overlain by compact till, overlain in turn by fining-upward proglacial lake deposits or alluvium deposited by free-flowing eastward drainage. The coarser-grained deposits are aquifers and the finer-grained or compact deposits are confining beds. This model is modified by the underlying bedrock topography. The west-dipping half-grabens in the Mohawk Lowlands acted as sediment traps, with thin glacial deposits along the upper dip slope and thick deposits on the lower dip slope.