GLACIAL HISTORY OF THE STUDY AREA

Continental glaciers covered most of New York at least twice during the Pleistocene Epoch (1.8 million to 10,000 years ago). Glaciers extended as far south as the present-day Finger Lakes. Streams are the result of deposition during the last interglacial stage of the Wisconsin (Pleistocene) about 110,000 years ago. The glacial sediments include alluvial deposits, lacustrine deposits, and outwash. The basin consists of alluvial deposits that form the valley bottom. These deposits consist of sand, silt, and clay layers.

TILL

Till is a consortium of boulders, cobbles, gravel, sand, silt, and clay deposited directly by the glacier. It generally covers the bedrock upland and locally underlies other valley fill deposits along the sides of the valley. It is generally absent in the central parts of the Chenango River valley throughout the study area. Till has a high range of permeability because (1) it is poorly sorted, (2) it is highly composite, and (3) it ranges in a high and lower content. In bedrock, the till varies from several feet to a few centimeters.

Ice-Contact Deposits

Sediments transported by meltwater and upland tributaries were deposited upstream or above their final outwash deposits during the glacial stage (110,000 years ago). These outwash deposits are generally 10 to 40 feet thick in the Chenango River valley. The coarse-grained material was sorted into mud, sand, gravel, and silt layers, and was deposited in short, narrow streams. These deposits consist of sand, silt, and clay layers.

STRATIFIED-DRIFT AQUIFER

UNCONFORMITY BOUNDARY -- shows extent of unconsolidated deposits in the study area. Striated moraine deposits that formed the ice-contact deposits in the center of the valley. These deposits consist of sand, silt, and clay layers.

START OF GLACIAL DEPOSITS -- shows extent of glacial deposits in the study area. Striations moraine deposits that formed the ice-contact deposits in the center of the valley. These deposits consist of sand, silt, and clay layers.

LACUSTRINE DEPOSITS -- clay, silt, and fine-grained sand and gravel deposited by a lake. These deposits consist of sand, silt, and clay layers.

OUTWASH AND ALLUVIAL-FLOODPLAIN DEPOSITS -- deposits at the outlet of a proglacial lake, consisting of sand, silt, and gravel. These deposits consist of sand, silt, and clay layers.

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SURFICIAL GEOLOGY BETWEEN VILLAGE OF GREENE AND CHENANGO VALLEY STATE PARK, NEW YORK

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2005