

above sea level. Its contact with the overlying clays was nowhere well exposed at the time of my visit.

The top sands appear to follow the clays naturally as the result of shoaling water and the pushing out of the ancient delta of Rondout creek. It is noticeable that the sand beds have been cut out from time to time to the depth of 3 or 4 feet and as rapidly filled in by the continued transportation and deposition of sands from the same general source. The dominant cross-bedding in these sands displays a southeastward dip, but sections are exposed in which the opposite direction may be observed, from which it is to be inferred that the currents which carried the sand were subject to changes in direction. The almost complete absence of pebbles in this deposit is indicative of weak bottom currents at this level and as well the want of floating ice by which such coarse particles are often distributed.

Rondout terracc deposits. One sees two terrace levels about Rondout. A lower one is very well marked north of the ferry landing at about 50 feet above tide, the higher one occurs at 200 feet. A trench 4 feet deep in fine sand was exposed at the time of my visit at 51 Abruyn street near East Union street on the 50 foot terrace. This lower terrace is so much built over that its precise nature is in doubt. Toward the rock cliff and just north of the old cement quarry drifts, sand, composed in part of white quartz grains and hard shale bits, occurs as high as 100 feet and fragments of probably the same deposit rise to 120 feet.

Toward the north the 200 foot terrace shows gravel under the clayey sand of its upper section. So far as I was able to observe the clay is wanting in the immediate vicinity of the mouth of Rondout creek on the north; but at Kingston Point the clay appears and just south of the Terry hill triangulation station extensive clay banks have been opened.

In the Hutton Co.'s yard there is a topping of from 35 to 40 feet of sand, sometimes cross-bedded, with dip of cross-beds to the northeast. A lower part of this sand may fairly be described as clayey sand, pointing to a gradation into the purer clays beneath.

The clays are blue, with fine, white, micaceous sand bands varying in thickness from $\frac{1}{4}$ inch to 1 inch or even thicker. Thin