

eastward the thickness of the overlapping Miocene everywhere exceeds the thickness of that portion of the Patuxent beds appearing above water level. In this region the Miocene beds transgress westward entirely across and several miles beyond the Patuxent belt, resting directly upon the surface of the basement rocks.

The next younger division having a contact relationship with the Patuxent formation is the Lafayette formation. This relationship exists, so far as known, only in the sandhill country of the southwestern portion of the Coastal Plain province. The term sandhills has been applied to a series of rolling hills covering portions of Richmond, Scotland, Moore, Cumberland, and Harnett counties, whose elevations vary from a little over 200 feet to perhaps 500 feet. In this region the comparatively thin and more or less discontinuous Lafayette covering rests unconformably upon an eroded Patuxent surface whose broader topographic features seem to correspond closely to the present surface topography.

To the east of the sandhills and throughout the entire remaining extent of the belt of Patuxent outcrop not covered by Miocene or Lafayette strata, the Patuxent beds are concealed by surficial Pleistocene terrace coverings. Indeed, were it not for occasional stream cuttings, gullies, or artificial excavations, the older beds would be everywhere effectually concealed.

The strata of the Patuxent formation consist of sands and clays and various intergradations of arenaceous clays and argillaceous sands. The sands are fine to very coarse in texture, the individual grains being, as a rule, angular. They are in most places arkosic, and locally contain a large percentage of pure white kaolin grains. Muscovite mica is a common constituent and in places is present in large amounts. One specimen from near the base of the section at Fayetteville resembles a decomposed mica schist, the mica flakes being arranged in a general way parallel with the bedding planes and having diameters ranging up to $\frac{1}{8}$ inch. In this same specimen biotite mica is present in considerable amount, the individual flakes being smaller than those of muscovite. The sands are light gray to gray and greenish-gray in color, but locally are stained various shades of red, yellow, and brown by the hydrous oxides of iron.

The clays are everywhere more or less arenaceous, and fine mica flakes are generally present in greater or lesser amount. The colors range through dark drab, drab, greenish-drab, gray, and greenish-gray, or the materials may be mottled or more or less uniformly colored with purplish and reddish tints.

In most of the river exposures in North Carolina both the sands and