

clays are, as a rule, very compact, but nearer the Piedmont border the sands are more commonly of a loose texture. In some instances the arkosic sands are slightly indurated, forming a soft friable sandstone rock.

Iron sulphide, probably in the form of marcasite, was observed in a clay bed in the section at milepost 105 on the Neuse River and also in clay beds at some of the exposures on Roanoke River.

A small amount of lignite was observed at one or two places on Contentnea Creek, on Tar River in the vicinity of Tarboro and on Roanoke River in the section above the State Farm.

In the better sections in which the formation is revealed, especially in the bluffs of Cape Fear River, the clay and sand are observed to form alternate strata from 2 to 10 feet or more in thickness, giving to the section a banded appearance, which is further emphasized by the difference in color, the clay being darker than the sand. In most places the sand layers show more or less cross-bedding, this feature being more strikingly developed, however, in exposures closely adjacent to the Piedmont border.

At but few places have the Patuxent strata been observed in actual contact with the basement rocks. Where seen, however, as might be predicted, pebbles and cobbles occur, and it may be presumed that practically everywhere along this contact a basal conglomerate of gravels is present.

The general strike of the beds, as may be inferred from the areal distribution of the belt of outcrop, is northeast-southwest.

The Cape Fear River bluffs furnish the only exposures of sufficient extent to permit of the determination of the approximate dip of the beds. No exact measurements were made, but from the fact that certain of the clay and sand layers can be traced for several miles, especially in the southern part of Cumberland County, approximately at right angles to the strike, with scarcely any appreciable change in the level, it is apparent that the dip in this region, at least, is very slight, being but little more than the grade of the stream itself. The disappearance of the formation beneath the overlying terrane appears to be due in part to an increase in the general slope of its upper unconformable surface, as well as to the dip of the beds themselves.

The thickness of the Patuxent formation from its upper surface to the underlying bedrock has been determined from well data at a number of places along the belt of outcrop. A well drilled by the Fayetteville Ice and Manufacturing Company, located at their plant on the Wicomico terrace on which the business part of Fayetteville stands,