

North Carolina designated by the writer,² in 1907, the "Bladen" formation. Since it appears that Sloan's usage has priority, it is given the preference in this report.

Definition.—Outcrops of the Black Creek ("Bladen") formation occur in a belt to the southeast of that described for the Patuxent formation. In the Cape Fear River region this belt has a width of some 30 or more miles, but it narrows to the northeast, the formation being last seen on Tar River, where the width amounts to about 8 miles. (See geologic map, Plate XVII, in pocket.)

Beginning in the northeast, the counties in which outcrops may be expected to occur are as follows: northern Pitt, northern Greene, Wayne, northwestern Duplin, Sampson, southern Cumberland, Bladen, and Robeson. In South Carolina the southward extension of the formation has been recognized along Black Creek in Florence and Darlington counties as far upstream as Darlington and at several other places in the eastern part of Darlington County, where it has been designated Black Creek shale, as explained in a preceding paragraph.

The beds of the Black Creek formation rest with a marked unconformity upon the eroded surface of the Patuxent formation. The contact is well exposed at various places on the Cape Fear and Neuse rivers, Contentnea Creek and Tar River. The time interval represented by this break is believed to have been of considerable duration, possibly as great as that included between the top of the Patuxent and the base of the Magothy in Maryland.

No structural break occurs between the Black Creek and Peedee ("Burches Ferry") formations, the character of the sediments indicating a transition from the shallower water conditions of the former to the deeper water conditions of the latter. The line of division between the two formations has been somewhat arbitrarily drawn at the top of the transition beds, or at the point where the materials become finally of a true marine character. The placing of the dividing line in this position has, however, been actuated in part by certain paleontologic considerations explained elsewhere in this report.

The formation extends coastward conformably beneath the overlying Peedee formation and has been recognized in the basal portion of a well boring at Wilmington, where the thickness amounts to about 390 feet, and also in the basal portion of a boring at Fort Caswell, where the thickness, if correctly interpreted, is 400 feet.

The beveled edge of the Black Creek formation in the belt where it would otherwise appear as the surface material is everywhere con-

²Johns Hopkins University Circular No. 7 (whole No. 199), July, 1907, pp. 93-99.