

surface observations along Cape Fear River and upon data obtained from the deep well borings at Wilmington and Fort Caswell, give results pointing to a dip of between 20 and 25 feet to the mile.

The greatest known thickness of the formation in North Carolina is that presented by the section of the Fort Caswell well (p. 169). The base of the Eocene is at 254 feet and the lowest occurrence of characteristic Peedee fossils is at 1,140 feet, making a thickness of 886 feet of undoubted Peedee beds. In the deep well at Wilmington the Peedee beds were penetrated from the surface to a depth of 720 feet (p. 163).

That a comparable thickness of Peedee beds would probably be encountered in wells sunk near the coast elsewhere in North Carolina is indicated by records of wells at Charleston, S. C., and at Norfolk, Va. At the former place marine Cretaceous strata were recognized from a depth of about 600 feet to 1,980 feet, and at the latter from 715 to 1,320 feet. It is probable that in each case the greater part of the Cretaceous strata penetrated should be referred to the Peedee sand.

The formation is quite generally fossiliferous. Marine invertebrates constitute the bulk of the contained fossil remains. Among vertebrates, however, sharks' teeth are not uncommon, and fragments of bones occur at rare intervals. The invertebrates occur either scattered irregularly through the deposits or aggregated in layers. In places the shells have been preserved, but elsewhere the shell material has been dissolved away, leaving casts of impure lime, clay, sand, pyrite, or phosphate. Collections were made at many places, lists of which will be found in the detailed accounts of localities.

The table opposite shows the geographic distribution and range of the invertebrate species of the Peedee formation in North Carolina.

Detailed Sections.—The bluffs of Cape Fear River furnish the best series of exposures of the Peedee formation in the State. These occur from Donohue Creek Landing, $50\frac{1}{3}$ miles above Wilmington, to near the mouth of Black River. At several places in this distance the Peedee beds are overlain by a few feet of Miocene or Pliocene sand or marl, but for the greater part of the distance a surficial Pleistocene terrace covering rests directly upon the Cretaceous surface. (See sketch map of Cape Fear River, Plate I, opposite p. 88.)

A detailed section of the exposure at Donohue Creek Landing is given below.

SECTION AT DONOHUE CREEK LANDING, $50\frac{1}{3}$ MILES ABOVE WILMINGTON.

Pleistocene:

FEET.

Yellow loam, grading down into sand with gravel band at base 1 foot in thickness.....	7
---	---

(Unconformity.)