

sands in which occasional small quartz pebbles are present. It also, in places, contains a small number of black, water-worn phosphatic pebbles that have evidently been derived from the Cretaceous.

Beside the sands of the formation, the shell marls are of greatest importance. Along the lower Neuse River in the vicinity of Slocum Creek and Croatan the quartz sands contain numerous perfectly preserved fossils, some of which have undergone so little change that they can scarcely be distinguished from recent shells. It is possible that some of these beds may later prove to be Pleistocene. The sandy matrix in which they are found is buff to gray when weathered, but when fresh, greenish-blue and somewhat plastic on account of the admixture of considerable argillaceous matter.

Along the Cape Fear River the Waccamaw deposits are well developed in two localities, viz., Neill's Eddy Landing near Cronly and Walker's Bluff, about 9 miles from Rosindale. In both of those localities the shell marl constitutes the most important part of the formation and consists of excellently preserved fossils in a matrix of sand and fine shell fragments. At the marl pits of B. F. Keith at Neill's Eddy Landing the marl has been extensively dug and certain parts of it contain so little material, other than the shells, that analyses show the marl to consist of from 80 to 95 per cent calcium carbonate. At Walker's Bluff there is a thin layer of plastic clay that is somewhat calcareous and seems to constitute a part of the formation.

The total thickness of the Waccamaw formation is not known. It is probably, however, a comparatively thin one as developed in North Carolina, though part of it may have been removed by erosion in all of the localities where known. In a well section near Lake Landing in Hyde County 20 feet of materials are referred to the formation. Along the Neuse River the thickness is unknown. At Neill's Eddy Landing and Walker's Bluff the total thickness seems to be less than 20 feet. So far as we have any definite evidence at the present time the maximum thickness of the formation may be stated to be not more than 20 to 25 feet.

As shown by the lists of fossils from Neill's Eddy Landing and Walker's Bluff, given on later pages, the Waccamaw formation has yielded a very large variety of fossil species. These lists are far from complete, as there are many new species found at both of these localities which have not as yet been studied. When the determination of the fossils from these localities has been completed it is probable that the Waccamaw formation will be found to be even richer in the number of species than the Duplin, which has yielded so many forms at the Natural Well and other places in Duplin County. The fossils from this formation are, in general, well preserved.