

Water from depths exceeding 15 or 20 feet is as a rule hard and ferruginous. The hardness is due to the common occurrence of shell beds in the underlying strata. For this reason but few deep wells are in use. Several years ago at a mill at Alligator a well was drilled to a depth of 160 feet. Very little information is obtainable regarding it. According to one account, no water was obtained below 16 feet, but according to another some water was encountered, but was of a very unsatisfactory character. The casing was pulled up and the well abandoned. At this place no wells are in use at the present time, the water being taken from the river and distilled at the mill for boiler and domestic purposes. Wells have been drilled at Fort Landing and Columbia to depths of 48 and 61 feet respectively, but information concerning them is lacking.

In the summer of 1904 a deep well was drilled at Columbia for Mr. F. L. W. Cahoons. At a depth of 348 feet, water of a very saline character was encountered. Two or three water-bearing horizons, one of which was at a depth of 180 feet, were passed through before salty water was reached, and the water from these rose to within 2 feet of the surface. The water from these upper horizons is reported to have been good.

One assay of a water from this county is given in Table 1, pp. 502, 503, assay No. 175. This is discussed on page 491.

*Artesian Prospects.*—The porous sand beds of the underlying Pleistocene, Pliocene, and Miocene deposits should yield an abundance of water. Owing to the presence of beds of shell marl, the waters are likely to be hard. At depths exceeding 300 or 400 feet salty water will probably be encountered in all parts of the county. It is doubtful if flowing wells yielding potable waters are possible.

#### WASHINGTON COUNTY.

*Topography.*—The surface over the eastern half of this county is formed of the lowest and youngest Pleistocene terrace plain, the Pamlico plain, with elevations scarcely exceeding 15 feet above sea level. Much of this area is swampy. The Chowan plain covers a portion of the western half of the county, but the data available concerning it is very meager. A portion of this area is swampy, also.

*Geology.*—The county is underlain beneath surficial sands and loams of the Pleistocene formations by sands, clays, and marls, probably for the most part of Miocene, although possibly in part of Pliocene age. At some depth, perhaps 400 or 500 feet in the west and becoming deeper toward the east, are beds of Cretaceous age upon which the Miocene beds rest. The Pleistocene deposits which form the surface materials belong to the Chowan and Pamlico formations.