under consideration, where the rocks are concealed for the most part by superimposed sedimentaries, the detailed study of structure is in most places impossible.

The results of experiments in this area in the past ten or fifteen years have shown that the prospects for getting a supply of water of potable character from this source are good, although there is in the case of every attempt the possibility of failure. Where supplies from other sources are not available, this possible source should not be left untested.

By referring to the separate accounts of the water conditions in the several counties within the belt, detailed information may be had regarding individual wells which obtain their supply from this source. It will be observed that successful results have been obtained at various places from one end of the belt to the other. The largest number of wells in any given area is in the vicinity of Smithfield and Selma in Johnston County. The reason for this lies in the fact that this area is underlain by a slate or phyllite rock possessing definite cleavage planes along which the water is able to pass, and experience has shown that the drill seldom fails to penetrate a horizon at some depth less than 300 feet which will yield moderate to large amounts of water.

In nearly all cases some artesian pressure is exhibited, but so far as known no wells furnishing sufficient artesian pressure to lift the water above the surface and produce flows, and obtaining their supply from rocks underlying the deposits of the Coastal Plain, have been drilled within the area.

CRETACEOUS.

Patuxent formation.—This formation appears in surface outcrops in a long narrow area running northeast-southwest which extends from Roanoke River to the South Carolina line (see geologic map, Plate XVII, in pocket). It rests upon the uneven surface of the underlying basement rocks. The beds dip gently to the southeast and pass unconformably beneath the overlying Black Creek ("Bladen") formation, becoming deeper and deeper in the direction of the coast. Very little is known of their coastward extension, but it appears certain that in the region of the Cape Fear Valley at least they do not extend as far as Wilmington, as shown by the fact that both at Wilmington and at Fort Caswell only marine beds of Upper Cretaceous age were encountered down to the underlying bedrock. Here at least they appear to have pinched out beneath the overlying Upper Cretaceous beds and the basement rocks on which they rest. In that part of the belt extending from