

The area over which potable waters in the beds of the formation may be reached by borings is shown on the map, Plate XXXIV. It includes not only the area of outcrop, but also an additional strip to the southeast several miles in width, where the beds may be reached by drilling through the overlying beds of Eocene limestone.

The Peedee sand has a thickness at Wilmington of at least 720 feet, and at Fort Caswell of not less than 886 feet, as shown by deep borings. It is probable that a comparable thickness exists at other places along the coast, although over much of the eastern and northeastern part of the State the terrane is deeply buried beneath superimposed Tertiary beds. Water-bearing horizons exist at intervals throughout the vertical extent of the formation; but, unfortunately, at depths exceeding 250 to 400 feet, according to location, the waters from these horizons are so highly charged with sodium chloride (common salt), and other salts, at least so far as tests have been made, as to render them utterly unfit for use. But, on the other hand, fortunately, at most places within the area horizons of potable water exist above those which are excessively saline. A very large number of wells have been drilled to these horizons, especially in Columbus and New Hanover counties, and also in Brunswick, Pender, Duplin, Lenoir, and other counties. Flows have been obtained at many places. Where flows do not occur the water as a rule rises near enough to the surface to be within the reach of ordinary hand force or suction pumps.

In general, the waters from above the lower limits mentioned are of a very satisfactory quality. As a rule, they are somewhat mineralized, but only locally is the mineral content excessive. Calcium and iron are the principal minerals present, and in a few places one or both of these are present in such large amount as to render the waters unpalatable.

For detailed information regarding the artesian conditions in various parts of the area under consideration, the reader is referred to the separate county discussions published elsewhere in this report.

TERTIARY.

EOCENE.

Trent formation.—The extent of the area in which the strata referable to this formation appear in surface outcrops has been determined only approximately. It includes portions of Craven, Jones, and Onslow counties, with a few isolated areas in the counties to the westward between Neuse and Cape Fear rivers, which are unimportant as water bearers. (See geologic map, Plate XVII, in pocket.)