

vicinity consist of light gray, coarse, arkosic sand, cross-bedded in places, and quite compact or even indurated to a hard rock, and of lenses of light drab or mottled red or purple, more or less finely siliceous, to coarsely sandy clay intercalated within the predominating sand mass. Here, also, discontinuous patches of Lafayette deposits are present upon the eroded Patuxent surface.

Outside of the sandhill country, perhaps the best exposures south of the Cape Fear are those in the vicinity of Hope Mills in Cumberland County.

One mile northeast of Hope Mills on the main line of the Atlantic Coast Line Railroad and to the north of Little Rockfish Creek, an interesting section is revealed at the south end of a long cut. The character and relations of the materials are shown in Fig. 10.

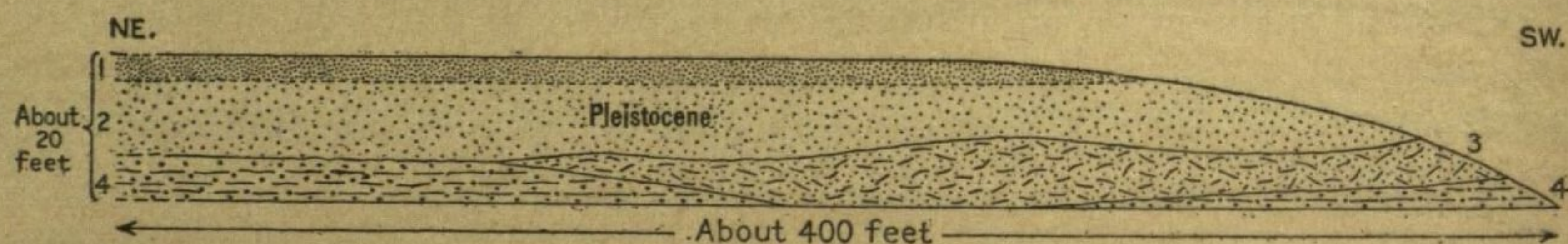


FIG. 10.—Sketch showing the relations of the Patuxent and Black Creek formations to each other, and to overlying Pleistocene deposits; cut of Atlantic Coast Line Railroad 1 mile northeast of Hope Mills, N. C.

EXPLANATION OF SKETCH.

Pleistocene:

- 1 and 2. Loose sand, becoming gravelly at base.

(*Unconformity.*)

3. *Black Creek formation:* Dark clays and stratified and cross-bedded sands containing lignite in considerable amount, and concretions of iron sulphide. The materials vary considerably in a short distance, in places being thinly laminated, with fine sand partings, and elsewhere presenting lenses of cross-bedded sand and thicker clay layers.

(*Unconformity.*)

4. *Patuxent formation:* Near the center of the cut, compact, coarse, gray, arkosic sand with rounded pellets of pure white clay, and towards the southwest end of the homogeneous plastic, drab clay.

Layer 3 is the feather edge of the Black Creek ("Bladen") formation occupying a position between the eroded surface of the Patuxent formation beneath, layer 4, and Pleistocene terrace materials above, layers 1 and 2.

Good sections of Patuxent strata similar in all respects to those occurring along Cape Fear River in the vicinity of Fayetteville are exposed on Little and Big Rockfish creeks both above and below the bridge of the road leading from Fayetteville to Hope Mills. In some of these a feather edge of the Black Creek formation occurs resting upon the Patuxent and overlain by Pleistocene terrace deposits. Detailed sections are given below. (See, also, section p. 116.)