

of the examinations and discoveries made during the past year in this section of the state, in reference to these subjects, will be more fully detailed under the following heads:

1st. Geology of Prince George's and Charles counties on the Potomac, and characters of their soil.

2d. Principal localities of the shell-marl deposits on the Potomac, their constitution, relative value, and use.

3d. Mineral resources of the portions of Prince George's and Charles counties situated on the Potomac.

SECT. I.—*Geology of Prince George's and Charles counties on the Potomac, and characters of their soils.*

This portion of the State of Maryland, commencing at the North-east Branch of the Potomac, exhibits a succession of abrupt hills, crowned by plateaus of variable extent, and sloping gently towards the south. These hills consist in a diluvial deposit of gravel, sand, and clay, in some places covered by a considerable accumulation of erratic boulders derived from the primitive mountains to which they are adjacent. The depth of this diluvial deposit varies from two hundred to a very few feet, diminishing in thickness, as the hills decrease in elevation, in the direction of their slope towards the Chesapeake bay. A decrease in the size of the pebbles forming the gravel, a marked difference in its mode of admixture, with the sand and clay, and a diminution, to total absence, of erratic rocks, are also observed corresponding with the direction of the slope. It is very probable that this diluvial formation rests, in nearly the whole of its extent, upon a vast accumulation of fossil shells imbedded sometimes in a ferruginous sand, sometimes in clay, and constituting the marl deposits of this portion of the state. The ravines that separate the hills, being mostly the beds of so many torrents through which the drainage of the country is effected, frequently furnish, when not too deeply loaded with alluvial matter, good opportunities for ascertaining the nature of the substratum. Nothing, however, of any importance has as yet been observed, in this respect; beyond the Piscatawa; save the deposit of lignite and copperas ore, mentioned in the previous report as occurring on the north side of the ravine of Oxen creek, in Prince George's county, and underlying the diluvial.