

alone could be separated with little difficulty from all the other formations of the Coastal Plain. The deposits consist mainly of a dark bluish-green, medium fine, argillaceous sand that contains many imprints and casts of small-sized *Mollusca*. The sand on exposure to the atmosphere changes in color, due to oxidation of the iron present, and assumes a ferruginous brown to yellow color. In certain places the iron has been almost entirely removed and the sand is gray to white in color. Normally the St. Marys sand is loose, though locally it may be indurated by a ferruginous cement. Marl beds occur in numerous places in the St. Marys, and these strata have been extensively worked in many places for fertilizing purposes. In certain localities shells are so abundant that they constitute the greater portion of the beds, but in other places the sandy matrix in which the shells are found makes up more than half the deposit. The fossils are usually rather fragile and somewhat rotten, so that they go to pieces easily and thus make very good material for the soils. During slavery days the marl deposits were worked extensively and were considered of importance, but within recent years there has been comparatively little marl dug. The reason for this is the scarcity of labor and the introduction of artificial fertilizers which act much more quickly and contain certain ingredients not found in the shell marl. The sand of St. Marys is rather fine in almost all places, though coarse sand and occasional pebbles are found near the base and along the western limits of the formation, as shown by the sections in the vicinity of Halifax, given on a later page. A pebble band is not infrequent near the base of the formation, and sometimes solitary pebbles varying up to 1 inch in diameter are found irregularly distributed through the sand some distance from the base. The coarse materials have, in almost every case, been derived from the crystalline rocks of the near vicinity, and some of them show little wearing by water. Black phosphatic pebbles and water-worn bones and sharks' teeth were probably derived from the Cretaceous or Eocene. Beside the sands and marls, there are occasional layers of sandy clay and occasional plastic clay beds interstratified with the sand.

At only one point thus far found within the State does there seem to be any evidence of diatomaceous material. This occurrence is about one mile northeast of Wrendale at the foot of a steep bank along Swift Creek. The diatomaceous earth there is decidedly sandy and grades downward into a stratum of sand.

The lithologic characteristics of the St. Marys formation are well exemplified in the numerous sections of this formation given on later pages.