dense, massive, bluish-white dolomitic limestone strata are interbedded with shaly layers. The dense dolomite beds have much vein quartz filling old fissures. There is also considerable black flint.

_Sigmund._—Several limestone quarries are located a short distance west of Sigmund. Two are in Lehigh County and others in Berks County. They were worked for fluxing stone for the Sigmund Furnace and for stone for lime burning. More recently one has been worked for crushed stone. The rock is an unusually dense bluish-white, massive, and fairly homogeneous dolomite. In the quarrying operations a cave 65 feet long was encountered. An opening in the floor of the quarry served as a drainage channel.

_Hosensack._—Limestone has been quarried on the south side of Hosensack Creek about three-fourths of a mile east of Hosensack village. Several kinds of stone are present. Thin-bedded, light-colored, highly magnesian beds are numerous. Also common are some brecciated and conglomeratic limestones. These beds probably were shattered when faulting occurred. Everyone who has investigated the area has noted the presence of faults with varying trends but so far as known no two persons have ever completely agreed as to the limits of the various small fault blocks.

At this point the Triassic overlaps the Tomstown limestones. The basal beds contain Triassic limestone conglomerates which may be readily confused with the Tomstown beds where the prevailing red color of the Triassic is lacking. Some loose pieces picked up here may be either Tomstown or Triassic.

**ALLENTOWN FORMATION**

_Distribution._—The Allentown formation occupies a larger area than any of the other limestone formations of the county. It forms a continuous band from one to four miles wide that passes entirely across the county from east to west. It occurs also in isolated areas both north and south of the main band. It underlies part of West Bethlehem, practically all of Allentown, West Catasauqua, Fullerton, Wescosville, East Texas, and Weilersville.

Where the formation crops out along the Lehigh River and smaller streams, fine opportunities are offered for detailed study. It has been quarried in scores of localities and these quarries, now in large part abandoned, are also useful in geologic investigations. Residual soil and glacial deposits conceal the limestones on the uplands.

_Lithologic characteristics._—The Allentown formation consists of dense bluish-gray to gray magnesian limestones in beds mainly from six to eighteen inches thick. Some shaly phases contain thinner beds whereas occasional layers are several feet thick. The thicker beds, however, break into thinner laminae on weathering.

One of the most characteristic features of the strata of this formation, and one which is fairly diagnostic, is the alternation of dark and light beds (pl. 18). In an operating quarry these distinctions of color are not readily observable whereas they are prominent in old quarries and in natural outcrops. They are mainly due to different