scattered over the surface and disseminated throughout the soil section. The shale fragments are soft and easily broken, and where cultivation has been carried on for many years they have been reduced to small particles. A mass of weathered shale is generally encountered within 24 inches of the surface. On some of the slopes this shaly layer occurs at a depth of 5 or 12 inches, while in the comparatively extensive level areas it may not be reached at less than 30 to 36 inches. The weathered fragments vary from yellow or grayish yellow to olive or brown, while the less weathered fragments of the substratum are more bluish-black in color.

The Berks shale loam naturally has a good tilth, and can be worked easily even when quite wet. The small shale fragments give the soil a loose, friable structure, and enable it to warm up early in the spring.

The topography is rolling to hilly. The configuration of the surface is rounded, the slopes being regular and smooth instead of gullied and rough. The series of rounded, smooth hills give the surface a billowy appearance. In the northern part of the county the type occupies long, smooth ridges, which parallel the Blue Mountain to the north. The hills and ridges reach an elevation of 600 to 900 feet above sea level, and are 50 to 200 feet higher than the intervening valleys.

The drainage throughout the type is good. Owing to the slope, water does not stand on the surface, while the shale fragments in the soil and subsoil permit the rapid percolation of soil water. Where the subsoil is a mass of shale fragments, as it is throughout a large part of the type, the soil is droughty, and crops suffer during dry seasons. Where the shale has weathered more deeply the droughty nature of the soil is less marked. With moderate care the surface does not erode badly and few of the farms include gullied slopes. This is doubtless due to the fact that the mass of small shale fragments keeps the soil from washing badly, except under very adverse conditions.

A large part of this type is in cultivation, though many small areas are still forested with the original growth of oak and other native trees. In the timbered areas the surface soil has a more yellowish color, but after cultivation it becomes darker.

The type is well adapted to general farming, and during favorable seasons good yields are secured. In very dry seasons the yields are low. Consequently crop yields vary considerably, depending on the rainfall. The productivity of the soil depends largely on its depth. On the steep slopes and tops of the sharper ridges, where the shale mass is near the surface, the crop yields are much lower and less certain than on the gentler slopes and gently rolling tops of broad ridges, where the soil is deeper. While average crop yields are lower than on the Hagerstown soils, under favorable conditions of rainfall and by the use of manure and commercial fertilizers, almost as good results may be obtained. The land is easily cultivated under all conditions of moisture, and since it warms up quickly and responds readily to good treatment, it is considered desirable land. The farm improvements and buildings indicate a general condition of prosperity.

The general farm crops are grown on this soil, though a specialty is made of producing Irish potatoes, to which the soil is particularly adapted. Individual plantings of this crop range from a few acres to 40 or 50 acres. The potatoes are grown largely in conjunction with other general crops. By the liberal use of stable manure and commercial fertilizers, 200 to 250 bushels per acre of potatoes of excellent quality are produced. Some farmers, however, do not use commercial fertilizer, but get good results with applications of barnyard manure. Corn produces 20 to 70 bushels, wheat 15 to 30 bushels, oats 20 to 50 bushels, rye 15 to 25 bushels, and hay 1 ton to 1½ tons per acre. Oats do well only on the deeper phases of the soil in good seasons. In dry seasons, in areas where the shale is near the surface, the yield is very light. There are some excellent fields of alfalfa on the type. About three cuttings per year are secured, with a yield of one-half ton to a ton per cutting. Some buckwheat is grown, with fair results.

1 Since the above was published the potato yield has materially increased so that yields of 400 bushels to the acre are not uncommon. Also at present rye is grown to a small extent on the steeper slopes.