Name and correlation.—This formation was given its name by Wolff and Brooks from Pochuck Mountain in New Jersey. They describe it as follows:

The gneissic outlier of Pochuck Mountain is represented by two bands of rock. The eastern band, which adjoins the valley and forms the eastern slope of Pochuck Mountain, we have called the Pochuck gneiss. This gneiss is about half a mile in width, and has been traced from near Hamburg to the northern edge of the area mapped. The prevalent rock type is a finely foliated gneiss, rich in biotite and hornblende, and often grading into a mica schist. With this mica-hornblende gneiss are often associated bands of amphibolite-gneiss. The latter rock consists essentially of plagioclase, green hornblende, and quartz, with some biotite, and is probably a squeezed dioritic rock.

In New Jersey the Pochuck as described by Spencer and others is used to include all the gneisses occurring in the Highlands region that contain hornblende, pyroxene or mica as principal mineral constituents. Some of these rocks are probably of sedimentary origin, and others may be altered igneous rocks, but in general they are so completely metamorphosed that their original nature cannot be ascertained.” In the Raritan quadrangle, Bayley states:

The rocks included in the Pochuck gneiss are all dark colored and generally black, on account of their large content of pyroxene, hornblende, and biotite. They have a wide range in mineralogic composition and are composed mainly of olivine, orthoclase, diopside, hornblende, hypersthene, biotite, magnetite, and quartz, in various proportions. Some specimens contain all these minerals, but as a rule two or more are absent. Magnetite is the most constant component, though olivine and hornblende, and green pyroxene are generally present.

It will be seen that the materials considered as Pochuck by Wolff and Brooks included not only the dark colored gneissic or schistose material but also foliated gneiss and mica schist. The later workers tended to confine the name Pochuck to the dark colored gneissic or schistic material. The present writer uses the name Pochuck for the dark colored gneisses containing hornblende, pyroxene and (or) biotite as dark constituents and olivine-andesine or andesine-labradorite as the more common plagioclase minerals. Quartz and magnetite are commonly present, and titanite, chlorite, epidote and other minerals appearing as accessory or secondary minerals are not infrequent.

Origin.—Spencer and others thought the Pochuck was derived from both sedimentary and igneous rocks. Bayley concludes as follows:

It therefore seems probable that the black gneisses which have been included under the term Pochuck gneiss should properly be divided into two groups of different age and possibly of different origin, the first group comprising gneisses, possibly of sedimentary origin, older than the Byram and Losee gneisses, and the second group comprising dark gneisses of igneous origin contemporaneous with the Byram and Losee gneisses.

The present writer considers the Pochuck as described in this report to be entirely of igneous origin. Furthermore, he wonders if the