those in general less than a foot in width, does not seem to have been controlled by the bedding but by joint cracks, so that they lie in various positions.

The internal structure of the ore-bodies of the Otisse type is interesting, and strongly indicative of their origin. Figure 5 shows on a large scale one such ore-body about 12 feet in width, occurring in trench No. 1. At the centre there is a body of rather siliceous pegmatite about 3 feet in width measured along the trench. On each side of this vein there is a band of altered and mineralized rock, about 3 feet wide on the south side and 1½ feet wide on the north side. The alteration, which will be described more fully later, consists mainly of calcitization, the mineralization is a pyritization, the pyrite usually auriferous. An outer zone of rock, altered but not mineralized, flanks the altered and mineralized zone; this is 6 feet wide on the north side, and slightly less than a foot on the south. The light grey, altered rock grades into the dark green country rock fairly quickly, but without any sharp boundary line. The gradational zone is commonly an inch or two in width. The line of contact is wavy, and frequently embayed in a highly irregular manner.

The structure described is characteristic of all the ore-bodies in the schist, although it is sometimes rendered more complex by the intrusion of two or more veins of pegmatite within each other's zone of influence; or its recognition may be obscured by an insufficient development which exposed only ore without the central pegmatite. Variations occur in the composition of the central dyke or vein, the width of both inner and outer zones of alteration, and the extent of the enrichment of the inner zone and the alteration in both. The data so far secured are not sufficient to determine the relation between these variations, but enough work has been done to indicate that the composition and size of the central dyke or vein are the principal governing factors, and there is also a possibility that some of the country rocks may have been more easily altered than others.

The data bearing on possible differences in susceptibility to alteration in the country rocks are rather scanty. All of the volcanics are seen under the microscope to be very similar in composition, their differences being mainly in the relative proportions of the constituent minerals. If one rock is more susceptible to alteration than another, it cannot be due to difference in composition, and the cause must be sought in physical differences, such as texture. The tuffaceous types, the rhyolite and basalt tuffs, undoubtedly had originally a more open texture than the massive basalts; and when sheared their lesser competency resulted in their becoming more schistose than the massive rocks. Both their original texture and their greater subsequent schistosity would make them more permeable to solutions, and allow of a larger degree of alteration. As shown on Figure 4, most of the ore-bodies are localized in the rhyolite tuffs and the basalt tuffs which directly underlie them. However, the fortuitous location of these tuffs next to the intrusive makes it impossible to conclude definitely that the localization of the ore-bodies is due to the influence of the country rock and not to chance, until the development operations are carried farther and the boundaries of the intrusive so as to allow comparisons to be made.

Data connecting the size and composition of the veins and dykes with the width of the altered zones and the intensity of the mineralization and