SERPENTINE AND CHAYNOFHE ASBESTOS

THE CHANGE FROM MASSIVE SERPENTINE TO CHRYSOTILE.

Granting, then, that massive scrpentine and chrysotile are in every way one and the same substance, the question as to the reason for the occurrence of veius of the latter resolves itself entirely into one concerning the conditions favorable to the formation of this more perfectly crystalline form of the mineral.

Although the serpentine they contain is identical in every way, there yet remains a great difference between the constitution of the chrysotile veins and the massive serpentine bands; this dificrence consists wholly in the absence or presence of admixed material, and depends also on the nature of the latter. In the veins, the serpendue is absolutely free from any foreign substance ther than iron ore, and even this is for the most part segregated clong a single plune near the center of the voin. The massive serpentine of the bands, on the other hand, always has associated with it, in addition to magnetite, a certain amount of unaltered, or incompletely altered, pyroxetic, and this is true even in the zere immediately adjacent to the chrysofile; the magnetice, moreover, is here widely scattered in grains throughout the bands. It is reasonable to conclude, the efore, that the first condition nece-sary in order that veins of chrysotile may form is the complete schente ization of all the ferro-magnesian minerals of the origical rock, together with the complete removal of all other constituents, such as lime and alumina, which may be present, with the exception perhaps of iron ore.

The factors favoring such a complete alteration might not e crywhere be the same; but it should be possible, in any particular case, to obtain some indication of their nature from a consideration of the course which the metamorphism has taken

In the present area, a cross-section from the peridotite to the Christille may be divided roughly into four zones, as is flows: (1) wordbred peridotite: (2) partial scrpentinization of the olivine, with pyroxene more or less unaffected; (3) olivine completely, and pyroxene partially, scrpentinized—this zone constitute: the massive scrpentine "bands"; (4) complete scrpentinization of beth olivine and pyroxene—this zone forms the chrysotile "veins."

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