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## **Correlation between geochemical parameters and topography of geocovers of quartzitic relief at tropical area: study case in Serra da Canastra, Brazil**

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Geocovers contribute to the analysis of geomorphological processes that occur/occurred on the surface, serving as witnesses of these processes. Quartzitic regions tend to present incipient unconsolidated geocovers and are often characterized by rocky outcrops, even under humid tropical climates. The degree of weathering of geocovers and its relationship with the topography in these environments are still poorly understood. In this sense, the objective of this work is to analyze the relationship between topography and mineralogy of the clay fraction found in geocoverings developed on quartzitic relief, in a case study in Serra da Canastra, Chapadão do Diamante (ChD). We carried out a previous compartmentalization of the landscape into three main patterns, from which we selected three representative slopes for the survey of transects, from the interfluvium to the valley floor. Thus, we selected nine geocoverage samples to perform the X-Ray Diffractometry (XRD) analysis, and analyzed the results using the exploratory multivariate technique of Principal Component Analysis (PCA). The results suggest a correlation between the identified minerals, their position on the slope and the characteristics of concavity and the presence of natural barriers. In the first transect, in very incipient geocoverings, minerals were found indicative of highly weathered environments and with poor drainage, such as Kaolinite and Illite, indicating greater permanence of water in the environment, due to small structural traps that allow the storage of products of quartzite weathering. In the second transect, the samples showed oxides and hydroxides of Fe and Al, which demonstrate the advanced degree of weathering in the area, which can constitute lateritic geocoverings, when in large quantities. The last transect, with deeper geocovers, in high slope, presented Goethite and Siderite, indicating a poorly drained environment, with water remaining longer in the system. This study revealed that mineralogical analyzes of materials from quartzite sample areas in a humid tropical environment may indicate that these areas refer to the management of the balance between the resistance of the quartzitic parent material and the intensity of weathering on the one hand, and the position and topographic shape of the slope can influence the weathering degrees of another.