GEOLOGY AT THE SOUTHERN PORTION OF THE VILA VELHA STATE PARK, PARANÁ

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RESUMO: Furnas sandstones at the famous State Park area, initially related to the Eodevonian Furnas Formation (Arenito Furnas, Oliveira, 1912), were considered in the Campo Mourão Fm. (Itararé Gr.), as "Arenitos Lapa-Vila Velha" (França et al, 1996) adopted by Soares, 1989) and Rostirolla et al. (2002) for that sandstones. The area comprehends mesas and scarps of sandstone occupying the upper part of relief and lowland covered by diamictites, varvites overlying shales of the Ponta Grossa Fm. The importance of this work is to discuss about the reason why the Vila Velha sandstones crop out in areas ascribed to the sandstones of Eodevonian Furnas Fm. The area was affected by orthogonal jointing, which locally produced gravity faults and "mini-grabens" oriented NW, where a diabase dike swarm was emplaced (Maack, 1953). The intersection of the reactivated foliation and shear planes from the Precambrian units, impressed in the Paleozoic sediments and the NW fracture system resulted in the intricate pattern. In the four geological cross-sections it could be depicted different vertical distribution of the sediments which could be caused by either primary sedimentological variation or fault displacements. Diamictites, mostly, partly weathered, occur at the lower part of the sections and are underlain by dark gray varvites. and the contact between them, in a distance of a few quilometers, vary among the elevations 846m and 863m. The thickness of the varvites also varies between 7m and 12m. According to that fact two the following conclusion may be advanced: The surface where the varvite deposited, probably a glacial lake, presented some irregularity, and/or the top of the diamictite was eroded. The contacts between the upper sandstones and the underlying varvites are marked by elevations between 854m and 863m, also suggesting an erosional (unconformity) contact. As there exist a visible and clear fault in the Tapera Creek which placed side-by-side the sandstone and the varvite the differences in elevations could be explained by gravity tectonics. The morphologic aspect of the scarps and their elevations also could point out relative movements between the faulted blocks. The cross-section at Nova Estancia farm did not have scarps besides the small thickness of exposed and eroded sandstone, lying about 15m or 20m below the central cross-sections. The formation of the scarps could be related to the precipitation of Fe oxides, narrow laterites or superficial silicification, making difficult any correlation. Reddish orange stains and silicified hard caps provided a resistant protection to the scarps and upper part of the sandstones. Very close to the study area (km 514 of BR 376), the sandstone dips 15oN and displays a sequence of white to light gray shades, thin conglomerate levels.

PALAVRAS-CHAVE: SCARPS; ITARARÉ; TECTONIC.