

## **SEDIMENTOLOGICAL AND PETROGRAPHICAL STUDIES AT THE DIAMOND AREA SOPA-GUINDA, SERRA DO ESPINHAÇO, MINAS GERAIS, BRAZIL**

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The studied area at the Serra do Espinhaço belongs to the region Sopa/Guinda near Diamantina in the southern part of the mountain range. The geology of this region is characterized by a shear-rift which was active during the midproterozoic and which developed into a passive continental margin. At last a continental collision built up the orogen and caused the development of a thrust belt. The sediments of the midproterozoic Espinhaço-Supergroup in this region, quartzites and conglomerates show the influence of a greenschist-metamorphism. The sediments also contains volcanic rocks of the synrift volcanism and hematitic phyllites. The four formations of the Guinda-Group characterise the three rift-phases and the filling of the basin with eolian sediments at the end of tectonic activity. The frequent mineral is quartz, accompanied by light micas and iron-ore, mainly hematite. Minerals like cyanit or turmaline announce zones of shear tectonics. The main problem of the region today is the reconstruction of the delivering area of the sediments to get conclusions about the diamond source. Sedimentological analysis show a long transport distance of perhaps more than 100 km because most of the minerals, except quartz and zirkon are destroyed. Probably the diamonds come from a kimberlit or a kimberlit-type rock in the western part of the Serra do Espinhaço which now lies under a thick deposition of sediments.