

Characteristics of the Capim-Açu Mining, Alluvium of the High/Medium Jequitinhonha River, Maria Nunes District, Diamantina, Minas Gerais, Brazil.

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Studies were done to describe and characterize the Capim-Açu mining site, which belongs to a diamond and gold-rich alluvium. This alluvium lies on an irregular surface of the Duas Barras quartzite (Macaubas Group). As a consequence, the mineralized layer, which lies directly over the bedrock, has a variable thickness. That layer is comprised dominantly of cobbles and pebbles, and is related to a fluvial braided facies. The clastic fraction of the mineralized layer is formed by quartz, quartzite, and metabasic rock fragments. The upper part of that layer presents a sandy clayey cover. This cover is 5 meters thick in average, and it is associated to a meandering fluvial facies.

The assemblage of heavy minerals is mainly composed by kyanite, hematite, magnetite, tourmaline, and subordinately of gold, rutile, sillimanite, and a few phosphate minerals. Some rare minerals such as ilmenite, goethite, zircon, anatase occur. The assemblage of these minerals does not reveal a kimberlitic or lamproitic affinity but simply followed the diamond deposition. One of the most important aspects of the diamond concentration is related to the existence of traps that were created in the bedrock by the erosive fluvial action. The transport of the diamonds of the study area is related to the washing of the Sopa-Brumadinho Formation by tributaries of the Jequitinhonha river.