

## Study of mineral at Gazela region in the Bons Sinais Estuary, Mozambique

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### Abstract

Minerals are defined as any natural solid having an organized internal structure and well-defined chemical composition. Its distribution on the land is not homogenous, several factors influence this. The Gazela region has a potential for minerals, due to the fact that it is located near the decayed region for the extraction of the heavy sands and, on the other hand, it is crossed by the Bons Sinais estuary that receives the discharges from the Cuacua rivers and Licuari, bringing with it sediments from the interior.

In the possibility of identifying the minerals present in the region, sampling was carried out at seven points, at a distance of 200 m, in the intertidal zone of the low tide. Identification of the minerals was performed in the laboratory using an X-ray Diffractometer.

Analyzes indicate that the region is composed mainly of Berlinite, but also with the presence of Quartz, Albite, Ortoclase, Santite, Sanidine and Roubalite faces. The mineral identified in small proportion was the Roubaulite. Quartz and Berlinite were present in most samples. Of the 7 minerals identified in this region, Berlite, Ortoclase, Santite, Sanidine and Roubalite are new discoveries in the Bons Sinais estuary, taking into account that the minerals identified in the bottom sediments of the estuary by Chichava (2017) and estuarine sandbanks by Chico (2018). With these results totaling 12 faces of minerals, the others being: Muscovite, Titanite, Topazium, Enestatite and Colombite.

In conclusion, the fact that in recent years the Mozambican government through foreign investors are betting on the mineral extraction industry, the Gazelas region has a potential for such extraction.

Keywords: Gazelle, sediments, minerals