

Lithostructural Study of Mineralized Formations in the Kéniéba District

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The Kéniéba district, located in the Kayes region of western Mali, is part of the Birimian (or West African Paleoproterozoic) period. With major gold deposits as the main source, and other useful metals for which exploration is not currently focused (iron, bauxite, copper, etc.). This region attracts numerous international mining companies, and their activities and discoveries remain insufficient compared to the area's surface area. For this reason, a comprehensive analysis of the lithological and structural aspects of the district's formations is essential to understanding the geological and structural controls of mineralization. This relates to my thesis topic, "Lithostructural studies of the mineralized formations of the Kenieba district." The objective of this research is to identify all the mineralized formations in the area, their relationships with their host rocks, and their structural states, with the aim of highlighting potential areas such as gold and other metals. Methodology Methods Used: Use of previous geophysical data (magnetometry, resistivity). Hyperspectral remote sensing to map mineral alterations. Detailed systematic geological, structural, and geochemical mapping (including soil and termite mound collection) followed by well drilling (for structural and geological boundary accuracy). 3D modeling of structural controls. Priority Targets: Intersections of shear zones and lithological contacts. Sectors with high density of sulfide quartz veins. Geochemical anomalies (As, Sb, W) along the structures. Correlation between the large world-class deposits in the area and the collected data. Expectations This study of the Kéniéba district could significantly deepen geological, structural, and metallogenic knowledge. The results will update the area in terms of its geological and structural state and will be the subject of future world-class mining projects.