

New lithological and structural data from the Nindangou area in the eastern portion of the Goren belt (Burkina Faso - West Africa)

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The eastern portion of Burkina Faso, including the Nindangou area, was covered by mapping after independence in order to promote geology and identify favorable sites for useful mineral resources. However, the majority of geological maps are limited to the spatialization of lithological units without paying attention to structural and lithostratigraphic relationships. Our study, based on new multi-source data, reinforced by field investigations, aims to attribute a new cartographic identity to Nindangou. Remote Sensing study reveals four families of lineaments, including two main directions (N130° and N44°). In addition, the interpretation of the magnetic analytical signal reveals basic and ultrabasic formations carrying a remanent magnetization to the west of the sector and supposed dolerite dykes from NW-SE and NE-SW directions. In sum, the Nindangou geology environment comprises mafic and ultramafic rocks (10%), composed of pyroxenites and orthoamphibolite basaltes anterior to local lithologies, followed by granitoids made up of granites (40%); granodiorites (45%), and finally late-magmatic formations (5%) including microdioritic and doleritic dykes, quartz veins and pegmatite veins. The mapped area is crossed by deformation corridors, deeply affecting the microdiorites following the NE-SW direction. Finally, note that the study region is marked by N60° schistosity, N138° fractures and N45° and N90° quartz veins.

