Petrostructural and Metallogenic Characterization of the Mineralization of the Woulo-Woulo Gold Prospect (Afema Zone, South-eastern Côte d'Ivoire)

Gnanzou Allou[1], Inza Coulibaly[2], Boya Kakeu Tokpa Lionel[1], Ibrahim Eric Bamba[1], Yacouba Coulibaly[1]

[1]Université Félix Houphouët-Boigny, UFR des Sciences de la Terre et des Ressources Minières (UFR-STRM), Laboratoire de Géologie, Ressources Minérales et Energétiques (LGRME), 02 BP 801 Abidjan 02, Côte d'Ivoire

[2]Université Nangui Abrogoua, UFR des Sciences et Gestion de l'Environnement (UFR-SGE), Laboratoire Géosciences et Environnement, 22 BP 582 Abidjan 22, Côte d'Ivoire

*Corresponding Author

ABSTRACT

The Woulo-Woulo prospect is located in the Maféré area (south-eastern Côte d'Ivoire), about 8 km west of the Afema shear zone. In order to better understand the geology of this prospect, a lithostructural and metallogenic study was carried out. The methodology used starts from macroscopic to microscopic observations carried out on the core samples. The lithological units observed are: metagrauwackes, metaargillites, sedimentary breccias, metaandesites, porphyritic metarhyolites and metagabbros. All of these rocks have been affected by greenschist facies metamorphism.

At the structural level, we observe a ductile and brittle deformation dominated by a flow schistosity oriented mainly N170 to N180 with a steep dip (>70°) and by quartz veins and veinlets trending N170 to N180, N00 to N20 and N30 to N40, low dip (<40°). We also observe faults, winding figures, lineations (stretching and mineral stretching) and folds thus reflecting a shear zone oriented N170 to N180 and N00 to N20 (Woulo-Woulo shear zone).

Gold mineralization is preferentially hosted in deformed and hydrothermalized porphyritic metarhyolite. It is a vein and hydrothermal mineralization type, therefore epigenetic. The metalliferous paragenesis consists of pyrite (very abundant), sphalerite and native gold.

Keywords: Ivory Coast; Afema; Prospect of Woulo-Woulo, Lithology; Hydrothermal alteration.

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