

Relationship between alteration and mineralization in a mesothermal gold prospect at Akoase, northeastern Axim-Konongo (Ashanti) belt, Ghana

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A gold prospect at Akoase in the northeastern flank of the Axim-Konongo (Ashanti) metavolcanic belt in the Birimian of Ghana appears to show distinct relationship between the nature of alteration of the gold bearing rocks and gold mineralization (as per the grade of gold). At the prospect scale, three main types of alteration patterns are present. The first, typified by the minerals chlorite, calcite and minor sericite, is the most dominant but rarely contains Au grades in excess of 0.5 g/t Au. The second most abundant alteration is represented by sericite, dolomite and minor chlorite and is associated with assays >1 g/t but less than 2 g/t Au. The third is usually characterized by sericite, ankerite and pyrite and samples show highly variable but comparatively high gold grades often in excess of 2 g/t Au. Considering that some prospects, separated by about 20-30 km, occur within narrow corridors of the generally northeast-trending shear system, identification of such alteration patterns in the rocks could greatly help narrow down on potentially mineralized zones during further exploration and/or deposit evaluation.