

## The Arinem Te-bearing Gold-Silver-Basemetal Deposit in Magmatic Arc Environment of West Java, Indonesia

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The Arinem deposit is located in the West Java as a part of the Sunda-Banda magmatic arc. The ore is hosted by andesitic tuff, breccias, and lava of the Oligocene to Middle Miocene Jampang Formation and suffered mainly of propylitic and argillic alterations. The orebody is quartz-illite-calcite-sulfide vein trending for about 5,900m and 3-5m width in N160°-190°E direction and exposed at 365-530m above sea level.

The mineralized vein is classified into : stages I and II are Au-Ag-bearing, and stage III is mostly barren quartz. Diverse range of Te-bearing minerals of hessite, tetradymite, stutzite, petzite and altaite are observed in the mineralization stage II. The deposits consist mainly of pyrite, chalcopyrite, sphalerite, and galena with a little amount of marcasite, arsenopyrite, pyrrhotite, bornite, covellite, calcocite, argentite, electrum, hematite, and sulfosalt minerals of enargite and tennantite. K-Ar dating of sericite associated with the quartz vein indicates a Late Miocene age ( $8.8 \pm 0.3$  Ma) for the ore mineralization.

The formation temperatures of mineralization revealed from fluid inclusion in the quartz vein ranges from 176.6 to 325.1°C in stage I, 156.9 to 311.8°C in stage II, and 165.1-236.1°C in stage III with a salinity <4.34 wt% NaCl<sub>equiv</sub>, respectively. The geochemical environment of ore deposition equilibrium thermodynamics reflects a decrease in temperature and sulfur fugacity, which is followed by increasing in tellurium fugacity.