MINERALOGICAL, FLUID INCLUSION AND ISOTOPE STUDIES AT THE CINEAM EPITHERMAL GOLD DEPOSIT WEST- JAVA

(Review on epithermal gold deposit in Java)

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Abstract :

Cineam gold deposit is one of an epithermal gold deposit of Low Sulfidation type, which is located in the Sunda-Banda magmatic Arc Zone. Its existence in this region has led to a new concept or few point on the Sunda – Banda Magmatic Arc. Even the deposit is classified as a small scale in mine, however, mineralogically, fluid inclusion and isotopes studies are very interesting to be studied.

Based on the mineralogical studies, et least 15 minerals have been recognized in the deposit. They are arsenopyrite, pyrite, chalcopyrite, sphalerite, galena, tetrahedrite, tennantite, electrum, stibnite, hessite, petzite, pyrargyrite, proustite, realgar, orpiment and iron oxide. The cineam deposits on the basis of mineral association can be divided into three blocks viz. Cikondang block located in the northern area, Citambal-Cikurawet, located in the central area and Ciseel block, located in the southern area.

Kind of alteration in this area is propylitization, argilitization and locally silisification. Propylitization is widely spread in the investigation area, whereas silisification is locally occurs near or around quartz vein.

The typical quartz textures that can be recognized at this area are crustiform, colloform, banded, vuggy, and massive textures. Sometime dogteeth is also present but uncommon.

The most interesting thing of the deposits is the presence of a number of certain minerals such as hessite and petzite as a mineral guide for visible gold. It can be noted that its presence of hessite as well as petzite always show the presence of visible gold, but it is conversely that the presence of visible gold can not be used to guide the presence of hessite and petzite. This phenomenon is the first phenomenon that never recognized by previous workers.

Studies of fluid inclusion is indicate that the temperature for mineralization formation are range of 180° to 350° C with boiling temperature around of 210° to 230°C, and salinity are from 1,65 to 2,35wt% NaCl. The depth of mineralization formation based on Hass method (1971) is estimated to occur at around 200 to 250 m of the paleosurface.

Sulfur and carbon isotope studies show a values as follows: For sulfur, the $\delta^{34}S$ values is range of –5.9 to 3.7°/oo while for carbon, the $\delta^{13}C$ value is range of –2 to 0°/oo. From those data are suggested that the involvement of magmatic water is very strong for the formation of mineralization, accompanied with rich of base metal minerals.

Compared to the other famous deposit like Pongkor, the deposit is completely different in particular in mineral association.

, It seem this matter will give an insight to the mineralization system of the Southern Java Mineralization Zone forming part of a global mineralization of Sunda – Banda Magmatic Arc.

The aim of this paper is to describe some characteristics of mineralization used to reveal the existing hydrothermal series form part of Sunda-Banda magmatic belt.