

GENESIS OF THE OLYMPIAS CARBONATE-HOSTED Pb-Zn (Au, Ag) SULFIDE ORE DEPOSIT,  
EASTERN CHALKIDIKI PENINSULA, NORTHERN GREECE—A REPLY

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Sir: We wish to thank Cabri and Chryssoulis for the opportunity to discuss their objection to the description of the mineralogical distribution of gold in the Olympias ores as it was given in our recent publication (Kalogeropoulos et al., 1989). In our paper it was generally stated that "Gold and graphite in all mines occur as inclusions in pyrite and/or gangue, respectively." Apart from the subordinate presence of visible gold (Nicolaou, 1964), the invisible (refractory) nature of the bulk of gold in the eastern Chalkidiki arsenopyrite and As-bearing pyrite of the Pb-Zn (Au, Ag) sulfide ore deposits has been recognized since the early stages of exploitation and from the recent work of Kontopoulos et al. (1986) and Stefanakis et al. (1988). Gold has also been detected by instrumental neutron activation in high-purity (better than 99%) sphalerite separates (<0.11–2.06 ppm) and rhodochrosite gangue (<0.14–0.9 ppm) as well as by the fire assay method in the nearby manganese oxide ores (0.4–8.3 ppm). After all, that is why the pyrite-rich concentrate produced by flotation is stockpiled awaiting treatment in the projected metallurgical plant (Adam et al., 1989, 1990). Thus, as it is apparent from the points presented above that the term "inclusions" was used with its collective meaning without further discrimination according to the "invisible" or "visible" distribution of gold. However, we admit that our general description of gold distribution could have been optimized with the addition of the quite important refinement pointed out by Cabri and Chryssoulis. Moreover, we strongly support the statement of Cabri and Chryssoulis (1989) and Cabri et al. (1989) that detailed information on the mineralogical balance of gold prior to flow sheet developments by metallurgical engineers is of paramount importance. This point was presented in the detailed account by Chryssoulis

and Cabri (1989) and has been followed by metallurgical engineers responsible for the metallurgical plant of Olympias.

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