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Zonality and Otherness of Mineralization for Massive Sulfide Deposit in the Chengmenshan Orefield, Jiangxi Province, China

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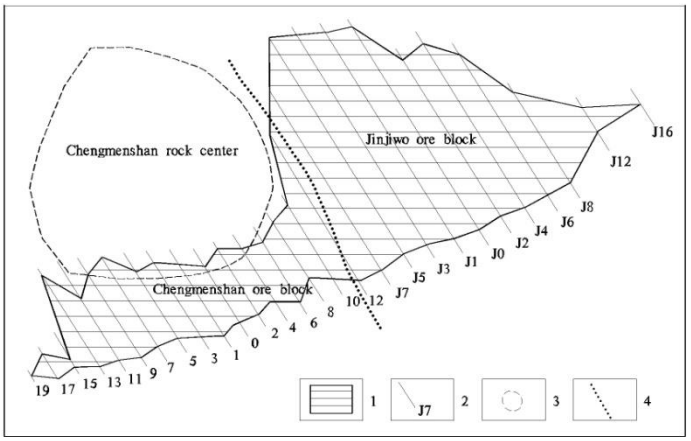
Chengmenshan ore field is located in the middle part of the Middle-Lower Yangtze River Cu-Fe mineralization belt, China. It is a large comprehensive ore field which is enriched in ore-forming elements of Cu, S, Pb, Zn, Mo, Au, Ag and Fe. The deposit is a trinity of massive sulfide-, skarn- and porphyry-type. This massive sulfide-type ore body is the largest ore body in the Chengmenshan ore field and it accounted for 57% of the total copper resources. Based on investigations on the geological characteristics, thickness and grade changes of the ore body along the strike and tendency, we summarized the features of mineralization. Then we studied and discussed the controlling factor of mineralization enrichment, about the ore-forming temperature and geochemistry, genesis of mineral deposit, and the prospecting direction of the mine periphery. There are two features of note about the mineralization; one is the mineralization zonality which manifestation is that Mo, Cu, Zn, Pb, Ag, Au element zonality is outside along the hydrothermal center, and Fe, Au, Ag, Pb, Zn, Cu element zonality down from the surface, and the other one is the otherness which manifestation is inconformity along the strike and leguminous shape along the tendency. We suggested that the zonality and different mineralizations sustained respectively by the hydrothermal genesis and sedimentary origin, therefore it is worth to paying more attention to the eastern periphery of the mine.

Figure 1: Horizontal projection of regulated massive sulfide deposits



1.massive sulfide ore body 2.exploratory line and its number 3.Chengmenshan rock scope
4. ore block boundary

Key words : Trinity, Massive sulfide, Mineralization zonality, Geochemistry, Chengmenshan copper mine,

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