1 The Regional Geological Background

Nuri mine is located in the northeastern corner of the Tibetan plateau Shannan Zedang, it is a complex tectonic region that NEE continental margin strike slip fault superimpose on NWW continental margin strike slip fault of southeastern volcanic-magma arc belts of Gangdese (Yan xueyi, 2010). And it belongs to southeastern subzone of Gangdese Cu-Mo metallogenic belt.

2 The Characteristics of the Deposits

The emergence stratum of Nuri mine is simple, mainly is Lower Cretaceous Bima Formation (K1b), Upper Cretaceous, Paleogene Danshiting Formation (K1b4) and Quaternary Aeolian sand (Q4eol). The geological structure in the mine is also simple, there’s no large fold and the faults develop well.

3 Characteristics of Trace Elements

We used the ME-MS61r method to analysis the trace elements of rocks that widely distributed within Nuri Mine.

The spider diagram (fig.1) of trace elements within skarn and limestone in Nuri Mine show that: there’s some similarity between the skarn and limestone, they are all right-wing type, depletion of Ti, Zr, Hf and enrichment of the high field strength element like Th, U, Y, etc. they have high Sr/Y 0.3-435, most value is 31-43. The igneous rocks in Nuri Mine are relatively enriched Th, U, La, Sr, Rb and deplete Hf, Nb, Ta; their spider diagrams have much similarity between quartz vein and quartz diorite porphyry (fig.2), indicate that a close genetic relationship is present between them and the quartz diorite porphyry have a direct effect on mineralization process. Magmatite of the mine generally loss Zr and have a character of Nb negative abnormality, indicate that magma may mix with crust-derived material during the process of rising (fig.3). Magmatite of Nuri Mine has obvious high value of Sr/Y, the value is 3.1~99, almost are about 30. The fig.4 show that part of intrusive rock of Nuri Mine locate in adakite rocks, including quartz diorite porphyry, granodiorite, quartz diorite, and trace element relatively enrich Th. They have similar characteristics of adakite with Chengba and Jiam deposit in Shannan, but lower content of Th, indicate that the magmatite of Nuri mine derive from juvenile lower crust.
(chun et al, 2009) and partly disseminated during evolution or in source region (Zhou liming, 2011), but have lower degree of dissemination than Chengba and Jiama deposits.

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Reference

