The Gaerqing Copper-Gold Deposit: May Be the Next Large-Scale Epithermal Deposit in the Duolong Ore-Concentrated Area, along the Bangong-Nujiang Suture Zone, Tibet

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The Duolong ore-concentrated area, discovered along the south of the Qiangtang- Sanjiang composite plate and the north of the Bangong- Nujiang suture zone, is situated in Geize County, the northwest of Tibet autonomous region. In recent years, with the discovery of the large-scale porphyry copper-gold deposits, Duobuza and Bolong, and the peripheral deposits, Naruo, Nadun, and Dibaonamugang copper-gold deposit, the potential resource evaluation of the western Bangonghu- Nujiang metallogenic belt harvests outstanding progress. Especially the finding of the south of Tiegelong, the super large-scale porphyry epithermal copper(gold- silver) deposit (Tang J X et al., 2014), provides a new way of thinking to prospect large/super large copper-gold deposits along the Bangonghu- Nujiang metallogenic belt in the future.

The Gaerqing ore district is located in the east of Duolong ore concentrated area, longitude 83°41′00″~ 83°44′00″ and latitude 32°49′00″~ 32°50′15″. To the west of it, there are Naruo, the south of Tiegelong, Duobuza, Bolong copper- gold ore districts.

Fig.1. The vuggy quartz and silicious breccias in the Gaerqing ore district

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During the prospecting and researching progress in the Gaerqing ore district, we find that there is plenty of silica cap/ lithocap in the east of this region, which behaves like separated, massive, raised and vuggy quartz or silicious breccias/ flinty silicate (fig. 1a,1b). Generally, the copper or gold( silver) ore bodies of epithermal deposits can be stored in the lithocap/silica cap. Also, the hypergene intermediate-acid intrusions, which are always under the lithocap, may be the mineralization mother rock of the porphyry copper-gold deposits, molybdenum deposits or tin deposits (Sillitoe, 1983). So, the exposure of the geologic body has an significant instructive meaning of prospecting porphyry epithermal deposits.

We sampled the silica cap(silicious breccias) to do the geochemical analysis(fig. 1c,1d). It displays that SiO$_2$ contents range from 87.06 to 93.71 %, average 89.76 %, and part of trace elements are shown in the table. 1. Au contents range from 87.06 to 93.71 %, average 89.76 %, concentrating area. The discovery of Jurassic accretionary complexes in Duolong area, northern Bangong Co- Nuijiang suture zone, Tibet and its geologic significance[J]. Geological Bulletin of China, 30(8): 1256-1260( in Chinese with English abstract).


| **Table 1 Contents of trace elements of the Gaerqing silica cap** |
|----------------|----------------|----------------|
| **Units** | **Hg** | **Au** | **Ag** | **As** | **Ba** | **Cu** | **Te** | **Tl** | **Sn** | **Pb** | **Zn** |
| **GEQ-02** | 3.49 | 0.33 | 32.3 | 289 | 80.0 | 95.0 | 1.99 | 0.32 | 190 | 10660 | 96.3 |
| **GEQ-03** | 11075 | 0.37 | 26.6 | 344 | 84.9 | 136 | 3.97 | 0.44 | 144 | 41780 | 152 |
| **GEQ-04** | 4521 | 0.33 | 17.7 | 289 | 80.0 | 95.0 | 1.99 | 0.32 | 190 | 10660 | 96.3 |

**References**


