

# **Tectono-geochemistry and prognosis of No. 8 concealed orebody in the Qilinchang Zn-Pb-(Ag-Ge) deposit, Huize district, Yunnan, China\***

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The Qilinchang large-sized, high-grade deposit is a typical representative of the Huize district. Based on detailed studies of the features of fault mechanics and tectonites, the fault tectono-geochemical mapping is provided, and 276 typical fault tectonite samples in the Qilinchang mine include Clastic rock, clastoporphyratic rock, primary mylonite, mylonite, cataclastic mylonite and cataclastic rock. These samples were analyzed quantitatively by ICP-MS for the contents of elements. The elements Zn, Cu, In, Ag, Cd, Pb, Tl, Hg, Sb, Mn, Co, Mo displayed remarkable geochemical anomalies.

Tectono-geochemical features are as following: 1) The anomaly is indicative of a target with prospects for ore exploration at depth, and the main orebodies are inclined in the SW direction. 2) The anomaly reflects the obvious controls of structures over mineralization. 3) The distribution characteristics of primary anomalies at the different levels implicates that ore fluids would flow in the direction from SW-trending to NE-trending. 4) From NW to SE direction, the gradients of primary anomalies vary from 0.02/m to 0.03/m, indicating the dipping direction of orebody. In general, NE compresso-shear faults are most favorable to the injection of ore-forming fluid and ore deposition.

According to these features and prognosis indicators, the concealed target area is proposed, which is at the depth along exploration lines 44 to 62 at level 1571m. On September 15, 1999, ZK56-1 was drilled along the No. 56 section line. The orebody revealed measures 16.79 m in average thickness. The average grade (Pb+Zn) is above 25%. The discovery of No.8 orebody makes the fundamental reserve plus economically exploitable Pb-Zn metal reserve exceed 0.806 million tones. This practice can be taken for a successful example in expanding the metal reserves of old mines. \* Granted jointly by the funds for Program for NCET in University (NCET-04-917), the NSF of Yunnan Province (99D0003G), the NNSF of China (40172038) and the Collaboration Program of Yunnan (2000YK-04).