Definition, differentiating standard and controlling factors for mineralization of super-large ore deposit

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For the study and the comparison of the worldwide materials, the term's consistency should be discussed and the differentiating standard should be simple and convenient. The comprehensive scheme on the basis of Laznicka's and Tu Guanzhi's principles that suggested by He Zhili (1998) would be simple and practical for discussion. In the authors' opinion, the super-large ore deposit means a deposit with a reserve scale up to a super-large ore deposit, but the super-large ore field means an ore field with a reserve scale up to 5 times of a super-large ore deposit. If it is not only a super-large ore field but also has one or more super-large deposit in this area, it may be called super-large ore deposit (field) — Muruntau is a better example. Generally speaking, some super-large ore deposits are polygenetic and compound ore deposits controlled by many geological factors. According to the geological background, other favorable conditions and the recent advance in investigation and exploration, some new super-large ore deposits will possibly be found in some areas of China. For example, the Zhao-Ye gold metallogenetic belt (Shandong province), Xiaoqinling gold area (Henan province) and some places of Southwest Tianshan area are favorable for formation of super-large gold deposits. It is reported that the 1st Muruntau type gold deposit in China found by Chinese geologists is located in Xinjiang, although it is smaller than Muruntau. A comprehensive application of many methods and techniques is suitable for exploration, of course one of them may be the most important and useful. The fluid inclusion research can be one of the useful tools in ore deposit investigation and exploration.