

# **Application of Geochemical mapping in Mineral Exploration and Environmental Monitoring in China**

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There are several large national geochemical mapping projects going on in China. (1) The Regional Geochemistry-National Reconnaissance Project (RGNR) which has covered already six million km<sup>2</sup> within 20 years with stream sediment sampling and multi-element analysis of 39 elements. (2) The Environmental Geochemical Monitoring Network Project (EGMON) which has covered most part of China with about 500 floodplain sediment samples and multi-element analysis of 68 elements. (3) The deep-penetration Geochemical Mapping project (DPGM), the pilot surveys of which has already covered about 300,000km<sup>2</sup> with our strategic mobile metals (MOMEQ) survey methods.

Geochemical blocks demonstrating the metal endowment for the formation of large to giant ore deposits were plotted using the RGNR data set, which is useful for the assessment of the overall mineral resource potential of China and for the search of giant ore deposits with lower risk. The EGMON project is a pilot study for global geochemical mapping demonstrating that such extremely low-density survey would be very useful in the assessment of global mineral resource potential and in the monitoring of global environmental changes. The DPGM project is aimed at discovering concealed mineralization in terrains covered by thick layers of transported overburdens or/and post-ore sedimentary covers. A new sub-project of RGNR is now initiated by analyzing 76 elements in about 40,000 composite samples drawn from RGNR sample banks, which will provide valuable information for the search of new kind of ore deposits and for the study of various environment problems.