

*Os-Os DATING OF COPPER AND MOLYBDENUM DEPOSITS ALONG
THE MIDDLE AND LOWER REACHES OF THE YANGTZE RIVER, CHINA*

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Abstract

The ^{186}Os - ^{187}Os and ^{188}Os - ^{187}Os dating techniques were modified and applied to molybdenites from two Cu vein deposits and three Mo skarn deposits along the middle and lower reaches of the Yangtze River, China. The results show that these deposits formed at 138 to 133 Ma, identical to the ages of 140 to 130 Ma for the host granitoids. Re-Os and Os-Os ages of two of the samples agree within analytical uncertainties. The close temporal relationship between the granitoid intrusions and the formation of the deposits supports a magmatic model for the origin of these deposits. The results show that the novel Os-Os dating technique is capable of resolving geologic problems, although the accuracy obtained by the present work (1–2%) is lower than that of the Re-Os method.

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