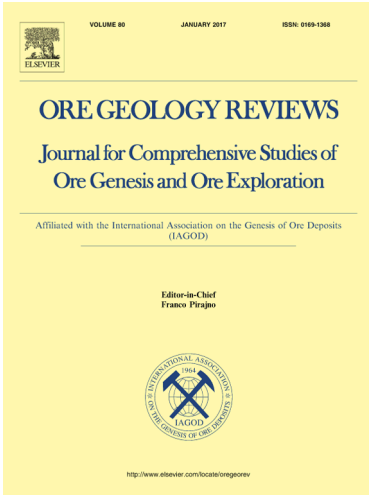

Origin of the Daping gold deposit in the Ailaoshan metallogenic belt, SW China: Insights from geology, isotope geochemistry and geochronology

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PII: S0169-1368(16)30774-0
DOI: https://doi.org/10.1016/j.oregeorev.2018.04.009
Reference: OREGEO 2553

To appear in: *Ore Geology Reviews*

Received Date: 1 December 2016
Revised Date: 2 April 2018
Accepted Date: 4 April 2018

Please cite this article as: Y. Zhang, D. Zhang, G. Wu, Y. Di, X. Li, X. Bu, J. Liu, Origin of the Daping gold deposit in the Ailaoshan metallogenic belt, SW China: Insights from geology, isotope geochemistry and geochronology, *Ore Geology Reviews* (2018), doi: https://doi.org/10.1016/j.oregeorev.2018.04.009

Origin of the Daping gold deposit in the Ailaoshan metallogenic belt, SW China: Insights from geology, isotope geochemistry and geochronology

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Abstract

The Daping gold deposit, the most representative gold deposit in the Ailaoshan metallogenic belt, is located between the southeast Sanjiang region (three rivers: Jinshajiang, Lancangjiang and Nujiang) and the western Yangtze block. Ore bodies in the Daping gold deposit are mainly vein types, hosted in the Late Proterozoic diorite and Silurian limestone, and controlled by NW-trending faults. LA-ICP-MS zircon U-Pb dating of granodiorite yielded a late Eocene age of 36.76±0.38 Ma, constraining the upper limit of the main mineralization. Quartz has δD values ranging from -80‰ to -50.4‰ (average: -63.1‰) and $\delta^{18}O_{fluid}$ values ranging from 7.29‰ to 8.29‰ in the early stage of mineralization; In the late stage, quartz has δD values ranging from -87‰ to

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