

Accepted Manuscript

Zircon U–Pb and Hf–O isotopes trace the architecture of polymetallic deposits: A case study of the Jurassic ore-forming porphyries in the Qin–Hang metallogenic belt, China

Panlao Zhao, Shunda Yuan, Jingwen Mao, M. Santosh, Dongliang Zhang

PII: S0024-4937(17)30294-3
DOI: doi:[10.1016/j.lithos.2017.08.016](https://doi.org/10.1016/j.lithos.2017.08.016)
Reference: LITHOS 4399

To appear in: *LITHOS*

Received date: 28 February 2017
Accepted date: 26 August 2017



Please cite this article as: Zhao, Panlao, Yuan, Shunda, Mao, Jingwen, Santosh, M., Zhang, Dongliang, Zircon U–Pb and Hf–O isotopes trace the architecture of polymetallic deposits: A case study of the Jurassic ore-forming porphyries in the Qin–Hang metallogenic belt, China, *LITHOS* (2017), doi:[10.1016/j.lithos.2017.08.016](https://doi.org/10.1016/j.lithos.2017.08.016)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Zircon U–Pb and Hf–O isotopes trace the architecture of polymetallic deposits: a case study
of the Jurassic ore-forming porphyries in the Qin–Hang metallogenic belt, China**

Panlao Zhao^a, Shunda Yuan^{a*}, Jingwen Mao^a, M. Santosh^{b,c}, Dongliang Zhang^d

a MLR Key Laboratory of Metallogeny and Mineral Assessment, Institute of Mineral Resources, Chinese Academy of Geological Sciences, Beijing 100037, China

b School of Earth Sciences and Resources, China University of Geosciences Beijing, 29 Xueyuan Road, Beijing 100083, China

c Centre for Tectonics, Exploration and Research, University of Adelaide, Adelaide, SA 5005, Australia

d Earth Science & Geophysics Information College of Central South University, Changsha 410083, China

Abstract: The Qin–Hang intra-continental porphyry-skarn Cu polymetallic belt (QHMB) is among the economically important metallogenic belts in South China. The significant differences in the volume and metal assemblage of the Jurassic magmatic-hydrothermal ore deposits in this belt remain as an enigma. Here we employ zircon U–Pb and Hf–O isotopes of the Tongshanling and Baoshan Cu–Pb–Zn deposits in the central part of the QHMB to investigate the contrasting metallogenic architecture. Our SIMS zircon U–Pb data indicate that the Tongshanling and Baoshan granodiorite formed at ~160 Ma. These rocks show high $Mg^{\#}$ values, and negative zircon $\varepsilon_{Hf}(t)$ and high $\delta^{18}O$ values suggesting that the magmas of the granodiorite porphyries were mainly generated through the anatexis of older crustal components triggered by the input of mantle-derived magma. The minor content of amphibole phenocrysts, low Sr/Y ratios, negative Eu anomaly, and low zircon Ce^{4+}/Ce^{3+} ratios indicate that the porphyries are relatively less oxidized with less water content compared with the ore-bearing porphyries in the Dexing and Yuanzhuding

Download English Version:

<https://daneshyari.com/en/article/8911880>

Download Persian Version:

<https://daneshyari.com/article/8911880>

[Daneshyari.com](https://daneshyari.com)