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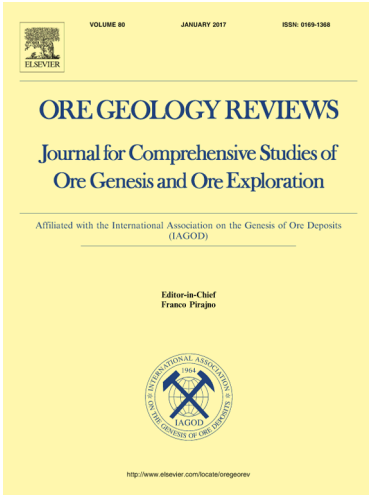

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Abstract

The Fujiashan-Longjiaoshan deposit is located in the southern area of the Edong District of the Middle-Lower Yangtze River metallogenic belt. W-Cu-(Mo) orebodies are found in the contact zone between the granodiorite porphyry and Carboniferous to Triassic carbonate strata. Four stages of ore formation are identified: (1) the prograde skarn stage, (2) retrograde skarn stage, (3) quartz-sulfide stage (further subdivided into the early 3a and later 3b), and (4) carbonate stage. In this study, we applied fluid inclusion microthermometry, laser Raman spectroscopy, and H-O-C-S-Pb isotopic compositions to constrain hydrothermal processes and ore precipitation mechanisms of the Fujiashan-Longjiaoshan deposit. Early stage (1 and 2) ore-forming fluids belong to a high-temperature (above 550℃), high-salinity (60-70 wt.% NaCl equiv.