

Re-Os Isotopic Dating for Molybdenites in Xinqi Tungsten-Tin Polymetallic Deposit of Yunnan Province, China and Its Geological Significance

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Abstract: Xinqi tungsten-tin deposit is distributed within albite metagranite, Tengchong area, Yunnan Province, China. For the first time, it was found that the mineralization of this deposit consists of mainly quartz-wolframite vein-type, and secondly greisen-type mineralization. Rhenium-Osmium isotopic dating for 8 molybdenite samples selected from quartz vein-type ores from this deposit yields a precise isochron age of (68.6 ± 3.9) Ma. The emplacement age of regional granite of later Guyong stock and early Xinqi stock, which is closely related to the mineralization, is 72~65 Ma. It is deduced that the emplacement and mineralization of granite occurred simultaneously within errors or the mineralization is slightly later than the emplacement.

Keywords: molybdenite, Re-Os isotope, granite, Xinqi Tungsten-Tin deposit, Tengchong, Yunnan