

## **A pre-2.2 Ga age for giant hematite ores of the Hamersley Province, Australia?**

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### Abstract

One current model for the origin of giant hematite ores of the Hamersley Province requires a two-step process: formation of martite and goethite by supergene enrichment, followed by burial metamorphism to convert goethite to microplaty hematite. Our new structural, stratigraphic and geochronological data suggest that at least some microplaty hematite ores were present before metamorphism owing to burial under the lower Wyloo Group. A SHRIMP U-Pb zircon age from volcanoclastic breccia within the lower Wyloo Group suggests that hematite detritus in that group was derived from hematite ores older than  $2209 \pm 15$  Ma. The action of pre-2.2 Ga oxidizing fluids is implied, although their origin (supergene versus hypogene) remains controversial.