Ultramafic-mafic lenses in the Zambezi Belt, NW Zimbabwe; remnants of a disrupted ophiolite ?

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Lensoidal bodies and pods of tremolite schist, metagabbro, anorthositic gabbro and metabasalt occur in a mylonitic terrane that forms the southern margin of the Zambezi Belt in NW Zimbabwe. MORB signatures have been obtained for some of these rocks, and locally they preserve eclogite facies assemblages indicating pressures of up to 20 kbar.

The composition and geochemical signature of the ultramafic-mafic rocks suggests that they represent fragmented oceanic crust, which may be related to an ophiolite sequence of Kibaran age that has been identified within the central Zambezi Belt.

High pressure metamorphism, probably resulted from collision of the Congo and Kalahari cratons which occurred before 850 Ma. A major extensional event at c. 800 Ma resulted in the formation of a pervasive mylonitic fabric that envelops the mafic-ultramafic lenses and accommodated exhumation.

The high pressure event is probably related to the amalgamation of Rodinia, while the extensional phase may represent its disintegration prior to the birth of Gondwana.