

## The Nansibon Jade Mines, Myanmar: Structure and Tectonics

Hans G. Avé Lallemant<sup>1</sup> (713-348-4889; ave@rice.edu)

G. E. Harlow<sup>2</sup>

S. S. Sorensen<sup>3</sup>

V. B. Sisson<sup>1</sup>

R. E. Kane<sup>4</sup>

Han Htun<sup>5</sup>

Myint Soe<sup>6</sup>

<sup>1</sup> Dept. of Geology and Geophysics, Rice University, Houston, TX 77251-1892

<sup>2</sup> American Museum of Natural History, New York, NY

<sup>3</sup> National Museum of Natural History, Smithsonian Institution, Washington, DC

<sup>4</sup> PMB 404, 1804 Garnet Avenue, San Diego, CA

<sup>5</sup> 66 Kaba Aye Pagoda Rd., Yangon, Myanmar

<sup>6</sup> 35 Mya Sabei St., Parami, Yangon, Myanmar

Jadeite jade occurs in two NNE-trending lithotectonic belts west of Mogaung, northern Myanmar. The eastern belt or central Jade Tract is underlain by serpentinites and metamorphic basement (Chhibber, 1934). The westernmost belt near the Nansibon jade mines consists of Tertiary and Quaternary conglomerates. River gravel in streams around Nansibon consists of limestone, diabase, basalt, and glaucophane-mica, chloritoid-mica, and garnet-mica schists. The Tertiary Nansibon conglomerates consist of mainly serpentinite, with lesser amounts of red chert, graywacke, quartzite, gabbro, amphibolite, glaucophane-garnet schist, and jade, all in a serpentine matrix. Some clasts may have been derived from the central Jade Tract. These two conglomerates appear to have different source regions possibly related to erosion of different nappe slices.

The deformation history of the westernmost belt includes four post-metamorphic events. The earlier syn-metamorphic history is ambiguous, but syn-metamorphic structures in some clasts are similar to those described in the central Jade Tract. The first post-metamorphic (D1) structures are NNE-trending folds and thrust faults. D2 structures are WNW-trending normal faults and drag folds. D3 structures are mesoscopic conjugate strike-slip faults resulting in WNW extension and megascopic NNE-trending normal faults. During D4, all older structures were rotated clockwise.

Both belts are part of a complex allochthonous terrane, west of the right-lateral Sagaing strike-slip fault that is the major transcontractional boundary between the Indian and Eurasian plates. All Tertiary and younger structures can be interpreted in terms of highly right-oblique plate convergence. The D1 and D2 structures are related to the EW component of the plate convergence-rate vector, whereas the NS component caused the displacements along the Sagaing fault. The D3 structures resulted from EW extension related to slab pull-back or extrusion of eastern Asia during collision of India. The D4 rotation may also result from extrusion. In summary, this region gives us insight into the evolution of the eastern Himalayas as well as earlier high P/T metamorphism.