

**Figure F1.** Sea surface temperature and bathymetric map of the Tasman Sea, southwest Pacific Ocean. Black star = location of Site U1506, black circles = DSDP Site 588 and Hole 590B. Solid lines = permanent currents, dashed lines = transient currents and areas of eddy trains. Figure was made using GeoMapApp under a Creative Commons Attribution 4.0 International (CC BY 4.0) license. Inset: location map. SEC = South Equatorial Current, NCJ = North Caledonian Jet, SCJ = South Caledonia Jet. Approximate location of currents and eastward flow fields are from Oke et al. (2019b).

**Figure F2.** Stable isotopic measurements using *Trilobatus sacculifer* from Site U1506. Core, core recovery, and core images are from Sutherland et al. (2019).

**Figure F3.** Stable isotopic measurements using *Trilobatus sacculifer* from Site U1506 on the tuned age model of Gastaldello et al. (2023; 4.18–7.41 Ma; 71.80–222.80 m) and the shipboard biostratigraphic age model (Sutherland et al., 2019). LP = Late Pleistocene, Chib. = Chibanian, Serra. = Serravalian, H = Holocene.