NO EVIDENCE FOR A 0.8-0.9 M.Y. OLD MICRO-AUSTRALITE LAYER IN DEEP-SEA SEDIMENTS; B. P. Glass, Geology Department, University of Delaware, Newark, DE 19716

Tektites found in Australia (australites), Java, Borneo, Malaya, Billiton Island, Indochina, China, and the Philippines have similar compositions and ages and are referred to collectively as the Australasian tektites (1-3). It has been suggested that the Australasian tektites formed during a single event ∿ 0.7 m.y. ago (1, 4). Shaw and Wasserburg (5) found that Australasian tektites have uniform Nd isotopic compositions and a continuous range of Sr isotopic compositions. These data support the hypothesis that the Australasian tektites are the result of a single event. However, some authors have obtained Ar-Ar, K-Ar and fission-track data which indicate that the australites are older than the other Australasian tektites (6-8). A microtektite layer found in deep-sea sediment cores from the Indian Ocean, Philippine Sea, and western Pacific occurs on or slightly above the Brunhes/Matuyama geomagnetic reversal boundary (9, 10) indicating that it fell ∿ 0.74 m.y. ago according to recent geomagnetic reversal time scales (11). These microtektites are thought to be related to the Australasian microtektites based on their composition, age, and geographic proximity (9, 10). Storzer and Wagner (7) and Storzer et al. (8) suggested that there should be an older layer of microtektites below the layer associated with the Brunhes/Matuyama reversal boundary. Based on the fission-track, K-Ar, and Ar-Ar ages that they obtained for the australites, they suggested that the micro-australite layer should have an age of 0.83 to 0.89 m.y. and that it might correlate with the end of the Jaramillo geomagnetic event. In an attempt to test their hypothesis we searched for an 0.8 to 0.9 m.y. old micro-australite layer in fifteen deep-sea cores which had previously been found to contain the Brunhes/Matuyama microtektite layer. These cores were sampled at ∿ 10 cm intervals between the Brunhes/Matuyama reversal boundary and the base of the Jaramillo event. Although one or more glass spherules were found in five of the fifteen cores, no microtektite-rich layer was found below the Brunhes/Matuyama layer in any of the cores. Most of the spherules found below the Brunhes/Matuyama reversal boundary were similar to microtektites from the Brunhes/Matuyama layer in appearance and composition and were probably reworked down from that layer by bioturbation or coring disturbance. Thus we find no evidence to support Storzer et al.'s (8) conclusion that the Australasian tektites were formed by two events separated in time. This research was supported by NSF grants OCE-8106812 and OCE-8314522.

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