

ALTERED METEORITE FRAGMENTS IN AN IMPACT BRECCIA AT THE CRETACEOUS-TERTIARY BOUNDARY IN HAITI

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ABSTRACT

A thin (0.2-0.8 cm) impact breccia layer marks the close of the Maastrichtian at a new site in the southern peninsula of Haiti. This layer contains unaltered volcanic rock fragments, plagioclase, ilmenite, and amphibole crystals, marine microfossils, globular pyrite, and an abundance of altered (celestite) microspherules (altered microkrystites). Much of the components, especially the fine-grained materials, have been replaced by celestite, although the original morphology of all framework materials is preserved. An unusual 0.6x0.45 mm spherule (pseudomorphed by celestite) displays a structure similar to that of a barred chondrule. This object probably represents a fragment of a chondritic meteorite that fell in the Caribbean area marking the Cretaceous-Tertiary boundary event.