

## **CRETACEOUS-TERTIARY BOUNDARY STRATIGRAPHY IN BELIZE, CENTRAL AMERICA**

1 KING, David T., Jr., and 1 PETRUNY, Lucille W., 1 Dept. of Geology, Auburn University, Auburn, AL 36849-5305 USA

Cretaceous-Tertiary boundary stratigraphy in the Orange Walk District of Belize, Central America, consists of carbonate impact breccia, approximately 30 m thick, that was derived in large part, but not exclusively, from underlying late Maastrichtian Barton Creek Dolomite. This impact breccia forms a distinctive, unnamed lithostratigraphic unit of complex origin that developed near the theoretical limit of continuous ejecta derived from Chicxulub impact crater. Grain-size frequency distribution of Barton Creek-derived carbonate particles spans a range of diameters from less-than-1 mm to several m. Angularity of Barton Creek-derived carbonate particles is very high, and sorting is very poor. In the 5 to 20 cm diameter range, Barton Creek-derived debris displays a sequence of megascopic surface textures that includes polish, striations, gouges, pits, and chips. Foreign particles, i.e., particles that show no petrologic evidence of being derived from underlying Barton Creek strata, comprise about 5 percent of impact breccia in Belize. Foreign particles include discolored and altered carbonate grains and other carbonate fragments with surface textures unlike those noted above. Whereas Barton Creek-derived materials are interpreted to represent primarily products of in situ comminution of bedrock related to secondary cratering, the foreign carbonate component may represent some aspect of direct Chicxulub ejecta within this proximal impactoclastic deposit. Owing to its mappability, the impact-breccia unit described above could properly be regarded as a formation, and after further study may also qualify as a lithochronozone.