



NEW LOCATION OF CHICXULUB'S IMPACT EJECTA IN CENTRAL BELIZE

A. Ocampo (1), D. Ames (2), K. Pope(3) and J. Smit (4)

(1)European Space Agency, ESTEC, The Netherlands, and Jet Propulsion Laboratory, California Institute of Technology 4800 Oak Grove Dr., Pasadena CA 91109 USA adriana.ocampo@rssd.esa.int, (2)Natural Resources Canada, Geological Survey of Canada, 601 Rue Booth, Ottawa, Canada, dames@nrcan.gc.ca, (3)Geo Eco Arc Research, 16305 St. MaryŠs Church Rd., Aquasco, Maryland 20608, USA, (4)Vrije Universiteit de Boelelaan 1085,1081HV, Amsterdam, Netherlands smit@geo.vu.nl

Chicxulub ejecta composed of altered glass, accretionary lapilli, and pebble to cobble sized carbonate clasts are found in the Cayo District of central Belize, about 500 km southeast of the Chicxulub impact crater centre. The ejecta layer, found near the town of Armenia, in central Belize, is about 4 m thick, and rests unconformably on a deeply weathered Cretaceous land surface, of the Barton Creek Formation dolomite.

There are similarities between these ejecta and the basal bed (spheroid bed) of the continuous ejecta blanket deposits (Albion Formation) found in northern Belize and southern Quintana Roo, Mexico, 340-360 km from Chicxulub. Although, the spheroid bed in the Armenia location exhibits an exceptional state of impact glass preservation, than that found in Northern Belize.

Overlying the bed with glass and lapilli is a 5-m-thick layer of limestone pebbles and cobbles, which contain altered glass and shocked quartz in the matrix. The well-rounded limestone pebbles and cobbles show striated and amygdaloidal textures.

We interpret the central Belize spheroid bed deposit with accretionary lapilli as ejecta deposited by the rapidly expanding vapour plume, and may contain carbonate condensates. The altered glass component consists of an inter-stratified illite-smectite mixed layer clay dominated by illite. The overlying pebble and cobble bed may be a later deposit containing re-worked ejecta, or a lateral extension of the coarse ejecta

beds found in northern Belize.

This new impact ejecta deposit, found in central Belize ~500 km from Chicxulub, emphasizes the importance of volatile-rich target rock and the dispersal of ejecta by the expanding vapour plume.