

Tuesday, March 18, 2003  
POSTER SESSION I  
7:00 p.m. Fitness Center

### Chicxulub

Schmitt R. T. Stöffler D. Wittmann A.

*Shock Metamorphism of Impactite Lithologies of the ICDP Chicxulub Drill Core YAX-1* [#1327]

The ICDP Chicxulub drillcore YAX-1 exposes about 100 m of allochthonous polymict impact breccias in a depth of 794.63 to 894.94 m. In this preliminary study we focus on the shock effects and shock metamorphism of these impactites.

Wittmann A. Kenkmann T. Schmitt R. T. Stöffler D.

*Clastic Polymict Dikes in the "Megablock" Sequence of the ICDP-Chicxulub Drill Core Yax-1* [#1386]

Clastic, polymict dikes in the megablock units of Chicxulub-YAX-1 drill core were studied. Petrographic and structural relationships are used to interpret ductile and brittle deformation stages linked to the cratering process.

Hecht L. Schmitt R. T. Wittmann A.

*Hydrothermal Alteration of the Impactites at the ICDP Drill Site Yax-1 (Chicxulub Crater)* [#1583]

Post-impact hydrothermal alteration including alkali metasomatism and devitrification of impact melt glass has significantly modified the mineralogy and chemistry of the impact breccia lithologies.

Zurcher L. Kring D. A.

*Preliminary Results on the Post-impact Hydrothermal Alteration in the Yaxcopoil-1 Hole, Chicxulub Impact Structure, Mexico* [#1735]

Examination of new Chicxulub core samples reveals an evolving post-impact hydrothermal system between the peak ring and rim of the impact crater.

Gelinas A. Walker R. J. Kring D. A. Zurcher L.

*Osmium Isotope Constraints on the Proportion of Bolide Component in Chicxulub Impact Melts* [#1359]

Chicxulub impact meltrocks from the YAX-1 drill core have very low Os concentrations, suprachondritic Re/Os and suprachondritic initial  $^{187}\text{Os}/^{188}\text{Os}$  ratios ranging from about 0.3 to 0.5. These results indicate a modest to negligible meteoritic component in the samples analyzed.

Lüders V. Horsfield B. Kenkmann T. Mingram B. Wittmann A.

*Hydrocarbons and Aqueous Fluids in Cretaceous Sediments of the ICDP-Chicxulub Drill Core Yax-1* [#1378]

Fluid inclusion studies in quartz from fissures of the Chicxulub drill core reveal evidence for high-temperature fluid and hydrocarbon migration. Hydrocarbons formed from organic matter in the megablock. Mobilization is likely caused by the impact.

Goto K. Tada R. Bralower T. J. Tajika E. Matsui T.

*Crater-filling as a Probable Cause of Giant Tsunamis at the Cretaceous/Tertiary Boundary* [#1531]

Lithology, grain composition, chemical composition, grain size and nannofossil assemblage of the samples from YAX-1 core were analyzed to investigate the possibility of the marine invasion into the Chicxulub crater immediately after the KTB impact.

Hildebrand A. R. Millar J. D. Pilkington M. Lawton D. C.

*Three Dimensional Gravity Field Modelling of the Chicxulub Impact Crater* [#2096]

Three dimensional gravity modelling indicates that the Chicxulub crater has an irregularly shaped twin peaked structural uplift of 40 to 50 km diameter. The shape of the central uplift is different than that inferred from velocity studies.