CONTINUITY OF DEPOSITION ACROSS THE CRETACEOUS/TERTIARY BOUNDARY IN THE SAN JUAN BASIN, NEW MEXICO

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In 1977 a magnetostratigraphic section across the Cretaceous/Tertiary boundary in the centre of the San Juan Basin demonstrated the presence of latest Cretaceous strata and no significant hiatus near that boundary. This result was in conflict with a model for geologic history developed over a period of 50 years that required a long hiatus resulting from tilting of the basin toward the north and subsequent erosion, more intense toward thé south, during the latest Cretaceous.

Recent studies compiling isotopic data, mineralogicmagnetic data, and stratigraphic-sedimentologic data support the presence of latest Cretaceous deposits in the San Juan Basin in both Late Cretaceous and Paleocene. Rate of sediment accumulation was lower toward the south, and deposits beneath the suspected hiatus are not demonstrably older in the southern part of the basin.

The new interpretation for late Cretaceous history in the San Juan Basin convincingly demonstrates the presence of Paleocene dinosaurs, and less catastrophic extinction at the end of the Cretaceous than generally proposed by earlier and current models for Cretaceous extinctions.