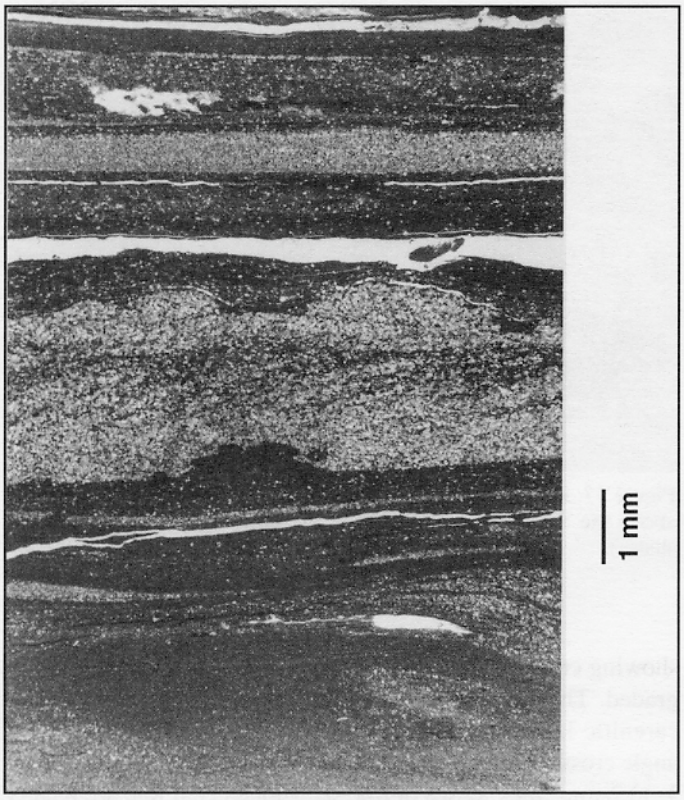

Figure 19. La Lajilla, Mexico. Thin section of topmost part of unit (III) at cm 108 (Fig. 15). At least three 0.2- to 2-mm thick (cross-bedded) fine sandstone flasers alternate with fine mud and silt, showing evidence for changes in current strength.

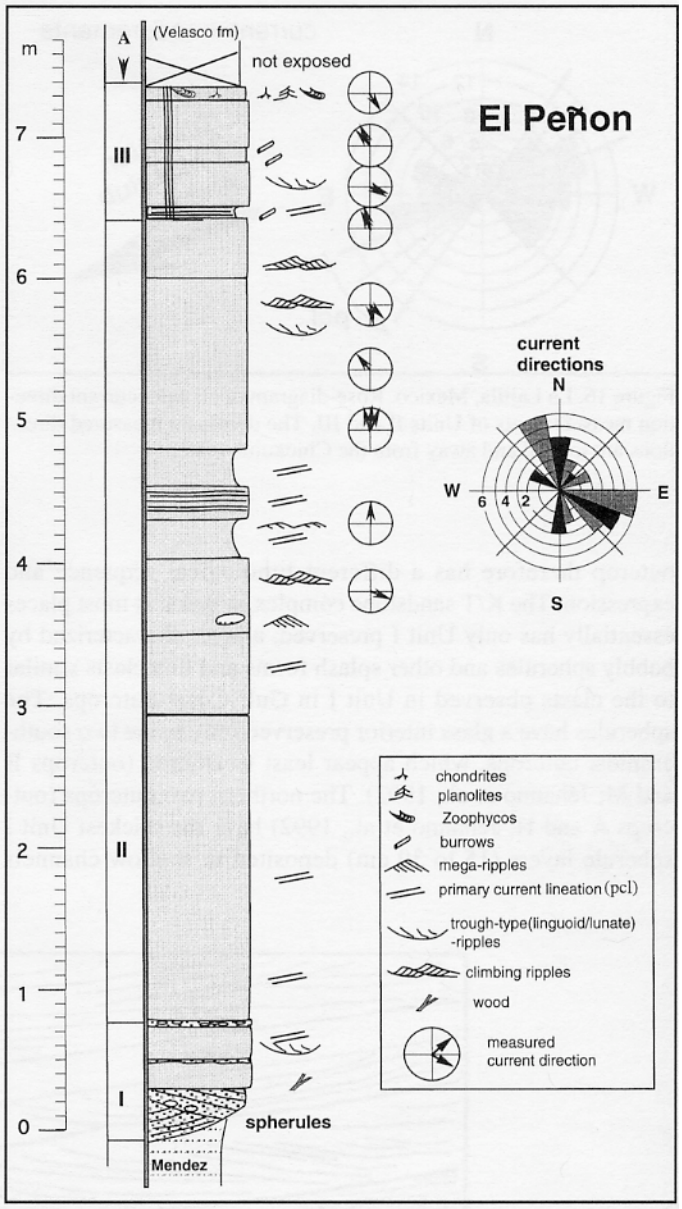

Figure 20. El Peñon, northeastern Mexico. Stratigraphic column through the K/T clastic complex. Paleocurrent directions of individual levels are plotted on the right-hand side and combined in the rose-diagram. The top and contact with overlying Velasco shale are not exposed here.

and pervasive cross-bedding we believe that all these units were rapidly deposited in one depositional sequence, not interrupted by periods of slow background sedimentation.

Jéhanno et al. (1992) also have described the lithology of these sections. Sigurdsson et al. (1991), Izett (1991), and Koeberl (1992) discussed the chemistry of the relict glass from the interior of the K/T spherules and concluded that the glass is of impact origin. Jéhanno et al. (1992) prefer a volcanic origin of glass based on two arguments: the high Fe^{3+}/Fe^{2+} ratio in the glass and the stratigraphic position of the K/T sandstone unit, supposedly below the K/T boundary. Although the high Fe^{3+}/Fe^{2+} is not yet explained, Jéhanno et al. (1992) did not discuss the extremely low volatile content of the glass (Koeberl, 1992), which is not consistent with volcanic origin. We have performed a few simple crushing experiments of glass fragments with relatively large (0.5 mm) fresh bubble cavities inside the glass. Ten glass fragments were crushed immersed in glycerine under a microscope. When the glass was crushed, the glycerine almost completely filled the bubble cavities in all fragments. This means that the gas pressure inside the bubble cavities is extremely low, consistent with a tektite glass origin.

Jéhanno et al. (1992) positioned the K/T boundary at the thin iron-oxide-stained, Ir-rich sand laminae and thus believed the K/T sandstone complex to be below the K/T boundary. The chalks directly below the K/T sandstone complex are rich in Maastrichtian planktic foraminifers (Fig. 14H), and the cross-bedded limestone and following sediments above the spherule layer are extremely poor in Cretaceous foraminifers (Fig. 14G). This interval is moreover rich in calcispheres *(Pithonella)* reworked from shallower-water sediments. These are thus part of the K/T sandstone unit and not of Cretaceous age because the Cretaceous fossils are clearly reworked.