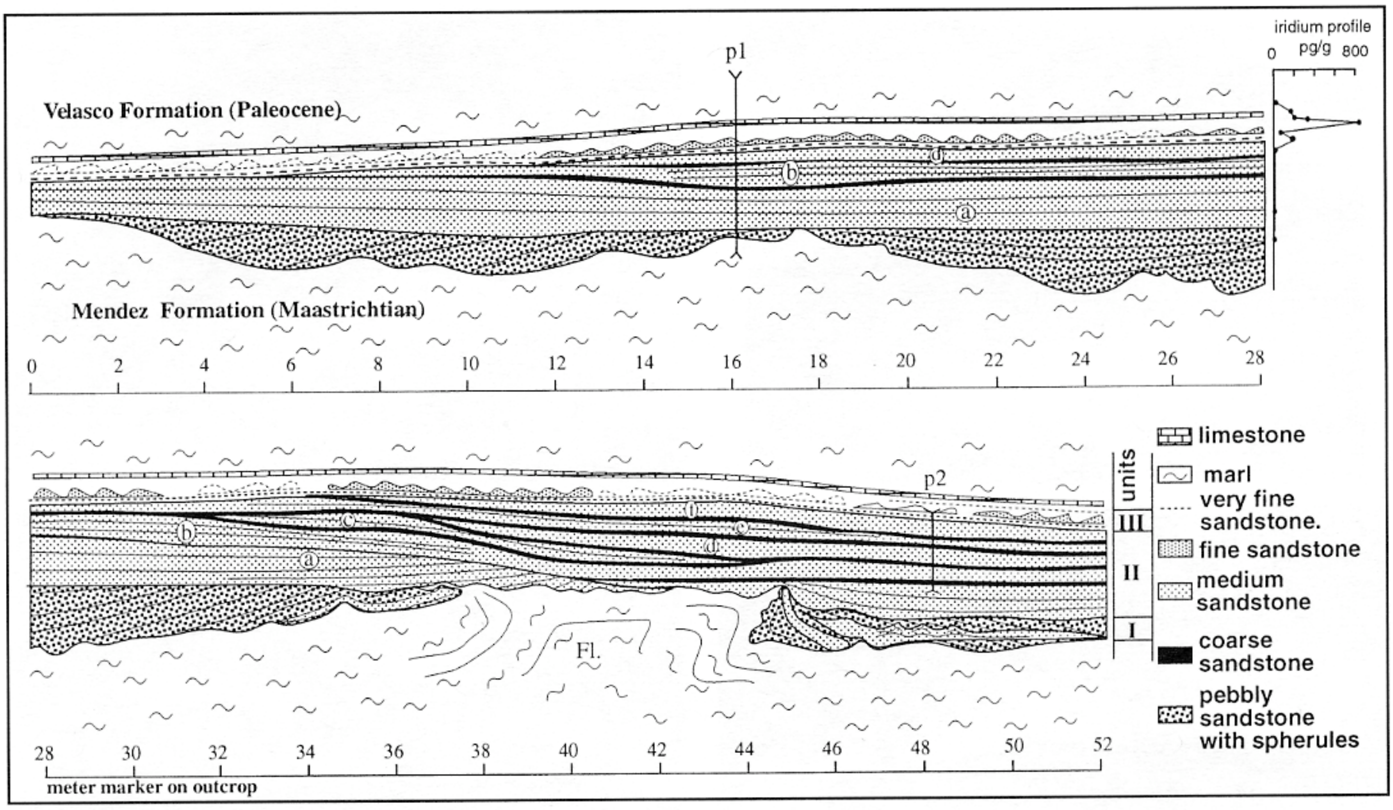

Figure 11. Arroyo de Mimbral, Mexico. Simplified cross section through the eastern outcrop of the K/T sandstone complex. Meter markings (see text) are painted on the outcrop. Ir abundances (pg/g = picogram/gram) (Table 3; Smit et al., 1992b) are measured at the section p1. The petrographic thin-section analysis (Table 2) is at p1 and p2. F1 = Mendez shale "diapir" or large, deformed flame structures between two channels. A–F, different lenticular parallel-laminated layers of Unit II, each with a scoured, coarse base. Note that near the shale "diapir" F1, the edges of Units I and II are upturned and that each successive channel or layer is less deformed and either "onlaps" on or truncates the steeper, previously deposited one.

observed between the channels (m.mk. 38–44). The sand layers near the depression rims (m.mk. 38 and 44) were dragged along and were oversteepened or even overturned by this diapiric movement. One can infer that the diapiric movements continued during the infilling of the channels, because successive layers onlap on more steeply inclined previously deposited layers (m.mk. 44–48). A spectacular example of such large flames or "diapirism" can also be observed at the Rancho Nuevo, Mexico, site (Alvarez et al., 1992b).

Current velocities involved in deposition of Unit I are apparently variable and mostly high, based on the coarse grain size. Unit I lacks adequate current-direction indications. The direction of lateral accretion shows infill from the west in one channel near m.mk. 28–38 and from the east in the next channel near m.mk. 44–48.

Unit II is made up of at least six fining-upward, stacked, thinning-upward lensing calcareous sandstone bodies (Fig. 11, a through f). Often the base of a higher sandstone body scours into the top of the lower ones and truncates the bedding. The latter is most obvious between m.mk. 36–42, because the angle of dip of the laminations of the lower (Fig. 11, a) sandstone body has been increased in a way similar to that of Unit I near the Mendez "diapir." Unit II differs petrographically and texturally from Unit I. The sandstone is pervasively parallel laminated and is well sorted, except in the axial, basal parts of the basal (Fig. 11, a) sandstone body. In Unit II detrital terrigenous grains are increasingly more common. In some laminae the sand-fraction is dominated by foraminifers identical to those in the Mendez shales; other laminae are rich in detrital quartz grains (Fig. 12A, B). Minor amounts of biotite crystals and charcoal fragments (Kruge et al., 1994) occur as well. Spherule remains similar to those found in Unit I also occur in the coarse basal part of several Unit II (Fig. 11b, c) sand bodies. Other components of Unit II, in particular in the basal part of sandstone body (Fig. 11a) near m.mk. 22–26, include rare siliceous sponges, plant debris, and rounded clasts of Mendez shale, some of which are 80 cm in size (m.mk. 29).

The axial part of the basal Unit II channels contains multiple layers rich in plant debris and pieces of wood. Some of the wood fragments have borings and were probably water satu-