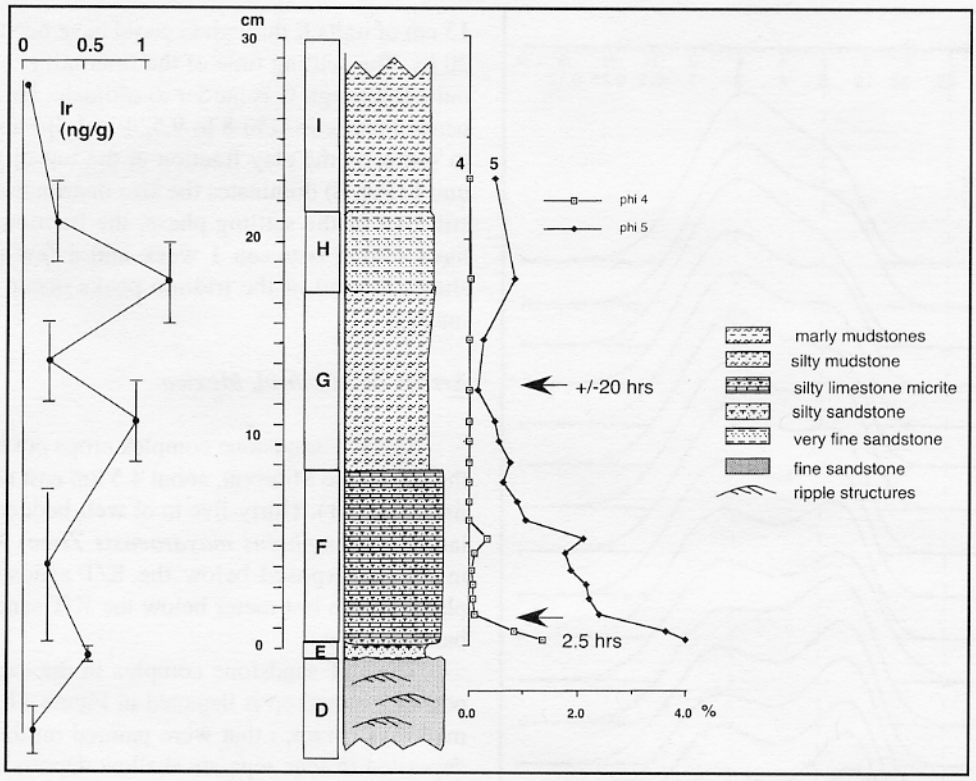

Figure 10. Profiles of percentile score of two grain-size (Phi) classes from the histograms of Figures 7 through 9, in true stratigraphic thickness. Ir concentrations in ng/g (nanogram/gram) are from Asaro et al. (1982). The duration in hours is taken from Table 1 and estimates the settling time of silt of Phi 4 and 5 from a 50-m-thick water column, after the deposition of the last sandstone (unit D). The clay fraction would settle after weeks (Table 1). The Ir carrier is apparently fine grained, because it settles down together with the finest clay fraction, several days to weeks after the impact.

TABLE 1. SETTLING TIME OF FINE SEDIMENT SUSPENDED IN THE WATER COLUMN COMPUTED FOR DIFFERENT WATER-COLUMN THICKNESS

Size Class (phi)	Micron	Settling Velocity (m/h)	Water-column Height in Meters (time - hours)					
			2	5	10	25	50	500
3	125.00	57.60	0.03	0.09	0.17	0.43	0.87	8.68
4	64.00	19.08	0.10	0.26	0.52	1.31	2.62	26.21
4.5	40.00	3.60	0.56	1.39	2.78	6.94	13.89	138.89
5	32.00	2.52	0.79	1.98	3.97	9.92	19.84	198.41
6	16.00	0.61	3.27	8.17	16.34	40.85	81.70	816.99
7	8.00	0.18	11.11	27.78	55.56	138.89	277.78	2,777.78

form "continuous" layers and can give the impression of normal hemipelagic sedimentation alternating with coarse-grained sand layers. This impression has led to estimates of the duration of sedimentation of the K/T sandstone complex of tens of thousands of years (Lyons and Officer, 1992).

The Unit I channels are progressively deformed toward the edges of the channels (m.mk. 34–38 and 44–48). The dip of the lateral accreting layers increases, and near m.mk. 38 and 45 those layers are even overturned. The underlying Mendez shale follows a similar deformation pattern. The disappearance of bedding planes in the Mendez shales just below the sandstone units could be due to soft-sediment deformation of the Mendez marls. The above-mentioned bentonite bed enclosed in the Mendez shale is folded at several places, showing that the shales were deformed. Near m.mk. 36–46 the Mendez shales are strongly deformed and contain frequent slickensides, without obvious preferred orientations. We infer that the Mendez shales at time of deposition of the K/T sandstone complex were still extremely soft and could be easily deformed. As a result of uneven loading of the rapidly accumulating incipient channel fills, the soft Mendez oozes were pushed away from the center of the channels into the large flamelike or diapirlike structures