

Seismites associated with the Dead Sea Fault in outcrops and drill core.

S. Marco¹, I. G. Alsop², E. J. Kagan¹, A. Agnon³

(1) Department of Geophysics and Planetary Sciences, Tel Aviv University, Tel Aviv 69978, Israel

(2) Geology and Petroleum Geology, Aberdeen U., UK

(3) Earth Science Institute, Hebrew U., Jerusalem, Israel.

Spectacular seismites in the palaeo-Dead Sea deposits provide new insights on soft sediment deformation in general and on its association with Dead Sea region earthquakes in particular. We recognize evolutionary trend in the deformed layers, starting from moderate open folds, proceeding through tight asymmetric folds, and ultimately breccias. The folds asymmetry is dictated by sliding on extremely low-angle décollement planes dipping toward the palaeo-depocenter of the lake. Alternating antithetic vergence of the folds in the same seismites capped with a breccia layers are interpreted as evidence for seiche waves in the lake. Initial observations on seismites in the 465-m-long Dead Sea drill core shows both similarities and differences to outcrops.