

# A Low Velocity Layer in the Upper Crust of the Ionian Sea

by

K. HINZ

*Bundesanstalt für Bodenforschung, Hannover (R.F.A.)*

In physiographically different provinces of the Ionian Sea seismic refraction profiles were investigated by F.S. Meteor in 1969.

In the travel-time curves of all profiles the parameter  $d \Delta/dt$  increases continuously. In all travel-time curves a shift by  $\Delta t$  was moreover observed which can only be interpreted by a low velocity channel in the upper crust.

The low velocity layer, which has hitherto been unknown in the Mediterranean, was also observed within the region of the cobble stone area and in the central part of the Mediterranean Ridge.

The velocity-depth diagrammes for the upper crust in the Ionian Basin, which have been derived from the seismic refraction records, are very similar to velocity logs obtained from drillings in the Sicilian Tertiary basin [FLORES 1959].

According to the drillings the Upper Cretaceous series of Sicily is composed of a vertical alternation of thick chaotic rock accumulations and normal sedimentary series. The normal sedimentary series, e.g. the Alia shales, are of a lower velocity than the overlying olistostrome.

Owing to the similarity of the velocity-depth diagrammes derived from seismic refraction records and the velocity logs from the Sicilian Tertiary basin it can be assumed that in the Tertiary similar conditions of sedimentation must have existed in large parts of the Ionian Sea as in Sicily, and that in the Ionian Sea, too, olistostromes are widely distributed.

