

A PRELIMINARY INVESTIGATION OF THE
SHALLOW GEOLOGY IN S. EVOIKOS GULF,
AEGEAN SEA.

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The aim of the project was to provide information relating to morphology, distribution and physical properties of the sediments and shallow geology of the area. For this purpose 61 surface samples and 3 sediment cores of selected sites were collected from the H.R.V. NAFTILOS during the 1/82 cruise. In addition some 16 Km seismic profiling have been interpreted.

The bathymetry is varried in character. In the northern region the sea bed is very smooth, almost featureless and dips gently southeast wards forming a basin of a maximum depth of 70 m. In the southern region the bottom is rather complicated, dips eastward and reaches a depth of 80m.

The sediment distribution seems to be related to the present hydrodynamic regime. In the northern region the sediment cover consists mainly of clay and silt size particles with less than 10% sand size

1. 70, Gr. Afksentiu St., Ano-Ilisia, Athens, Greece.

2. 17, Reppa St., Papagou, Athens, Greece

3. 26, Erithreas St., N. Erithrea, Athens, Greece

material. The coarser material occurs in the southern region with over 60% of sand size material.

The 3 sediment cores analysed can not represent all the unconsolidated deposits occurring in the area. Some generalisations may be made regarding the range of the physico-mechanical properties of the surficial layers. Bulk density values were found to range from 1.48 to 1.56 and 1.82 to 1.93 in the northern and southern region respectively. Water content varies from 78 to 84 and from 26 to 35, porosity from 0.68 to 0.72 and from 0.42 to 0.50 within the two regions. In the northern region the average liquid and

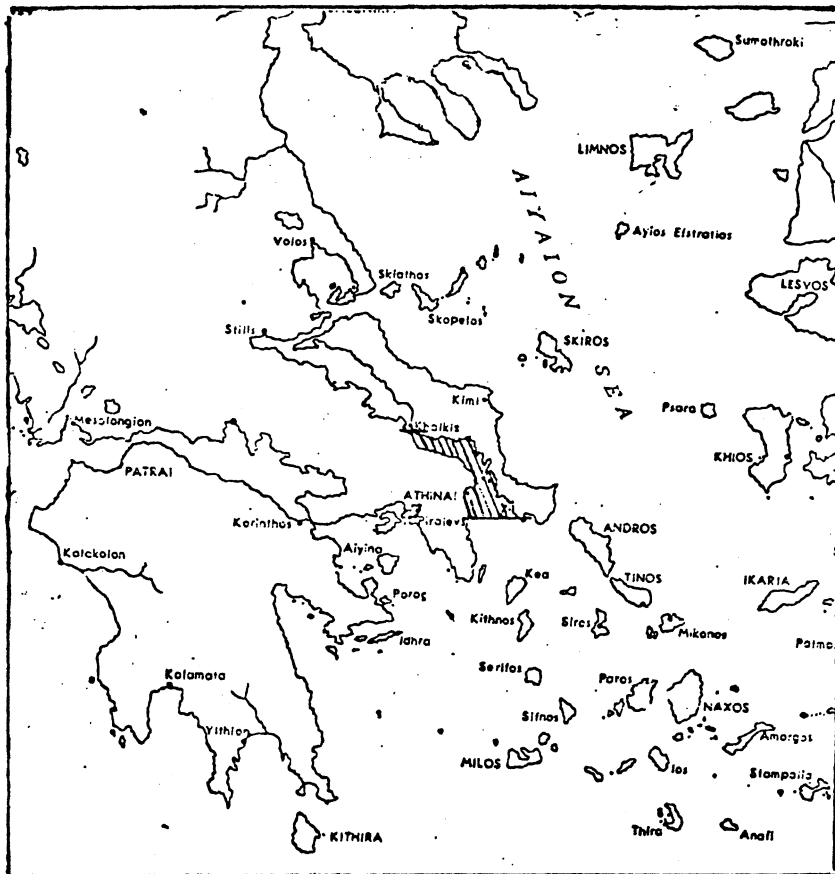


Fig 1. The area under investigation

plastic limits were found 82 and 34 respectively while the average shear strength varies from 25 to 31 g/cm².

Shallow seismic profiles revealed that the sediment thickness values from 0 to a maximum thickness of about 30m. The northern region of the area under investigation is dominated by well bedded deposits of average thickness 15m overlain by Holocene unconsolidated muddy sediments. In the southern part the well bedded basal layer is not present and the modern structureless sandy sediments rest directly on Quaternary-Neogene bed rock.

