

Seismic facies of Tertiary sediments in Ramsar region, southern Caspian Sea

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Seismic facies analysis yields the most useful information on depositional processes and environments of recent or ancient sedimentary environments. This study is based on sixteen seismic profiles from the Ramsar region, southern Caspian Sea. On the basis of underground contour maps two main reliefs were recognized. The southern relief is a part of the southern Caspian Sea Continental Shelf and the northern relief was formed by shale diapirism. A fault system, probably with an E-W trend and dipping to the north were recognized in the continental slope region.

Based on reflection amplitude and continuity, its geometry and general form five seismic facies were defined: 1- reflection-free facies, 2- parallel layered facies, 3- subparallel and mounded facies, 4- prograding facies and 5- chaotic facies. The reflection free facies may indicate seismically homogeneous sediments. The parallel-layered facies is predominant in most parts indicating uniform deposition of sediments in stable condition. The prograding facies is related to deltaic processes. The chaotic and subparallel and mounded facies were probably formed by sediment-gravity processes.

A distinct time line on top of the Cretaceous sediments with the age of Lower Pliocene can be correlated in most profiles. Seismic stratigraphic facies underlying this time line are grouped into seismic sequences interpreted as depositional events.