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Importance of Bottom Coring to Investigate former Shores

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Abstract

Shore-based geological observations, nearshore-offshore borehole drillings, bottom sampling and high-resolution shallow-seismic reflection profilings were reviewed from several coastal regions around Turkey. The main purpose was to show that high-resolution seismic surveys, which are commonly, carried out for submarine geotechnical investigations can not solely be reflect true bottom-subbottom conditions without further sampling and coring. Examples from Mersin Bay, Gulf of Iskenderun, Sea of Marmara and Black Sea showed that different materials such as paleosoils, consolidated beachrocks, unconsolidated sand and gravel as well as volcanic rocks produce similar seismic reflection configurations ("unconformities") beneath the unconsolidated siliciclastic mud of recent ages.

The case of the submarine acqueduct from Italian mainland to the Elba Island constitutes an example in which the Owner has decided to apply an innovative instrumental survey system, with brilliant results in term of an exhaustive information on the pipeline status and on the sections at risk, which have permitted to prepare a well scheduled intervention program.