Acoustic Structure of Eastern Black Sea Continental Slope, Shallow Gas and BSRs: Preliminary Results

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Black Sea, with methane and petroleum seepages, is the important hydro-carbon area in the world, nowadays. Since the continental slopes and abyssal plains are the significant places in terms of the gassy sediments, gas seepage and slope instabilities, it is important to investigate gassy sediments, geology of the seafloor and existence of the mud volcanoes to understand the economical potential of the area. This is a collaborative bilateral project which is funded by both TÜBİTAK and KRF in Korea. The second leg of this Project was the acquisition of high resolution multichannel seismic reflection and chirp data with the participation of Institute of Marine Sciences and Technology (IMST) and Pukyong National University (PKNU) in the Easternmost Black Sea. The aim of the project; the formation and destabilization of gas hydrates, the various forms of hydrocarbon seepage (seabed pockmarks, mud volcanoes, leaking faults)and the mapping of shallow gas and gas hydrates in both Eastern Black Sea and Gwangway Bay in south Korea. Thereby geophysical and geological investigations will determine the hydrocarbon reserves of Easternmost Black Sea. Data acquisition was held in October 2010 onboard R/V K.Piri Reis which belongs to Dokuz Eylül University. Data acqusition and processing are carried out by acoustic and seismic equipments of SeisLab at IMST. Big amount of slumps and slides at the eastern Black Sea continental slope area are evident. And also wide zones of shallow gas accumulations and BSR's are observed. There are few extant investigations on gas accumulations and gas hydrate formations at the Eastern Black Sea coasts of Turkey.

Keywords: *Multichannel Seismic Reflection, Shallow Gas, Bsr, Mud Diapir*