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Identification of natural gas hydrates with multi-channel seismic data of western continental margin of India

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Gas hydrates are crystalline substance composed of hydrogen bonded solid water lattice with entrapped gas molecules in cage-like structure or clathrate. Natural gas hydrates are formed in sediments under low temperature and high pressure conditions prevailing in permafrost and continental margin areas in deep water. Apart from the direct evidence of the cores, indirect evidence from the well log data has proved to be of grate significance in identification and evaluation of gas hydrate bearing formation through, multi-channel seismic (MCS) data are extensively used. Recent studies have shown the effectiveness of MCS data for detection of gas hydrates. The present study demonstrates the uesfulness of seismic data integrated with amplitude variation with offset (AVO) and fluid flow related features for identification of gas hydrate bearing zones in western continental margin of India.

Keywords: Western continental margin of India (WCMI), Multi channel seismic data (MCS), Gas hydrates, Amplitude variation with offset (AVO) and Fluid flow features.