

Feature of slump and associated structure observed at Daini-Atsumi knoll, the gas production test site from gas-hydrate

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The Daini-Atsumi knoll became famous as the first offshore gas production test site from methane hydrate-bearing marine sediments, is one of outer ridges along northeast Nankai trough, near central Japan. Several slumps were found on seismic sections around Daini-Atsumi knoll. Fortunately, several wells had been penetrating slump deposits and logging data were measured. As a result of seismic profile observations, a strong negative-impedance seismic reflector (NISR) was found in the turbidite sequence beneath the slump deposits. A seismic reflector containing the NISR has good continuity with variable reflectivity from a bottom-simulating reflector (BSR) sequence; that is, the NISR does not indicate a slump basement or the boundary of a chaotic unit. Nevertheless, very normal thin-layer turbidites were found at the depth of NISR from LWD measurement and coring, however, fluid data could indicate difference between upper slump unit and beneath turbidites unit. It implies that NISR does not mean pressured fluid but some fluid stagnation.

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