

Detailed internal structure of a lobe type methane hydrate concentrated zone in the eastern Nankai Trough

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Japan Oil, Gas and Metals National Corporation (hereinafter called JOGMEC), as a member of MH21 Research Consortium, takes charge of a study of the Research for Resources Assessment, and is pursuing a possibility that the methane hydrate, which is presumed to be distributed around ocean area of Japan, will be energy resources. JOGMEC conducted analysis of seismic data which was acquired by 3D seismic survey conducted from Tokai-Okai to Kumano-nada in the eastern Nankai Trough by METI (Ministry of Economy, Trade and Industry) in 2002 under the national program of assessment for methane hydrates as energy resources and more than 10 methane hydrate concentrated zones have been extracted. It has been understood by the results of the seismic sequence analysis and the sedimentary facies analysis that the methane hydrates were concentrated in the turbidite sand layers and the concentration configurations can be roughly classified into the channel types and the lobe types. In 2006, the resources assessment of the methane hydrate concentrated zones was conducted. On this occasion, the parameters got from the results of the drilling survey were applied to the whole zone of the concentrated zones. In the results of the drilling survey, it has been understood that the methane hydrates are distributed heterogeneously. So, in 2007, among the methane hydrate concentrated zones that the resources assessment was conducted in 2006, the detailed analysis of the internal structure of the methane hydrate concentrated zones of the lobe type and the channel type including the well locations was conducted to do the resources assessment considering the heterogeneity of the methane hydrates, and to understand the sedimentary structures of the sand layers embedding the methane hydrates. The reflected waves that construct the methane hydrate concentrated zone in the seismic data were extracted and those reflected waves were classified into some groups every one reflector. In the results, the reflector which structures in the methane hydrate concentrated zone was revealed. Also the sedimentary structures of the sand layers embedding the methane hydrates are revealing, because those reflectors at well have been correlated to the top of the sand layers embedding the methane hydrates. This time, we introduce the example of the detailed internal structure of methane hydrate concentrated zone in the lobe of submarine fan.