

# **Composition, structure and oil bearing capacity of the basement of the Bach Ho field**

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The Bach Ho basement reservoir is the most important and interesting among the oil discoveries offshore Viet Nam in the last decades. The field is located in the central part of the Mekong basin on the continental shelf of South Vietnam.

The reservoir is a horst-shaped Pre-Tertiary crystalline basement formed during Paleogene time as a result of block movement of the continental lithosphere. The basement reservoir rocks are fractured granitoid altered by tectonic movements and hydrothermal activities. They are heterogeneous by petrographic composition as well as by permeability characteristics and are divided into three intrusive complexes of various ages, which are analogous to those that were encountered in onshore in Southern Vietnam: i) Hon-Khoai complex, Late Pre-Triassic ii) Dinh-Quan complex, Late Jura, and iii) Ca-Na complex. Formation of these complexes was related to the periodically activated subduction along the continental margin. The rocks are of varying oil productivity. The most productive wells locate within the zone of Ca Na complex. The granitoid massif is bounded by the overlaying shale section on the top and the low boundary of the reservoir is confined by the non-permeable zone. The massif was divided by various fault and fracture systems, which had been formed as the results of regional and local tension.

Possible hydrocarbons sources, mechanism of their accumulation in the basement and recommendations for successful exploration on the continental shelf of South Vietnam are outlined in this paper.