

The tertiary volcanic sub-marine formation of kuta-beach, lombok, indonesia, a geological and educational site of high patrimonial value

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At the South of Lombok Island, Indonesia, the morphology of the coast corresponds to a succession of indented bays interrupted by eroded Tertiary volcanic remnants. The distribution of the old volcanic cones that underwent hydrothermal alterations corresponds to the presence of feeder dikes of basaltic andesite lava oriented ESE. This Late Oligocene to Early Miocene submarine volcanic deposit is constituted by volcanic breccias, tuffs and basaltic andesite lavas, with intercalations of marine deposits lenses of Oligo to Miocene limestones. A large bloc of hyaloclastite displaying radial cracks linked to a contraction during the process of cooling. Numerous cavities due to the gas trapping during the sudden cooling. On large surfaces of the abrasion platform, a loose network of perpendicular cracks underlined by recrystallisation due to fluid movements, attests the importance of contact during cooling. The result of auto-brecciation of basaltic lava flow can be observed locally as well as pyroclastic flows constituted of oriented hyaloclastite-peperite fragments displaying a reverse grading. A submarine volcanic edifice can hardly be found onshore in the Indonesian archipelago. Identification of the morphological features and study of the characteristic of products resulting of sub-aqueous volcanic activities will allow to better understand the eruptive mechanisms. A good exposure of dikes, fragmented sub-marine lava flows, hyaloclastite and peperitic deposits, supported by a rare and beautiful beach composed exclusively by foraminifera fossils-sands of *Schlumbergerella floresiana* contribute to confer to this geological and educational site a high patrimonial value.

Key words : Kuta beach Lombok, Submarine Tertiary volcanism, hyaloclastites, peperites