AOGS 2005

Terrigenous Seafloor Sediments off Lombok, Indonesia

RINA ZURAIDA[1], MAMAN SURACHMAN[1] and DELYUZAR ILAHUDE[1]
[1]*Marine Geological Institute, Bandung, Indonesia*

Subduction-related volcanic activities in West Nusa Tenggara since Pleistocene formed active seventeen volcanoes with andeistic-basaltuc composition in the area. Volcanic deposits that covered the majority of West Nusa Tenggara islands (Bali, Lombok, Sumbawa) are reworked by erosion and deposited in the seafloor around the islands, including Flores Sea to the north of Lombok. Seismic profiles obtained during seafloor geological mapping of Flores Sea in 2002 by Marine Geological Institute revealed thin layer of fine to medium-grained marine sediments that are deposited in 45-1500 m water depths. Samples obtained in the area showed that the seafloor sediments composed of silt, sandy silt, silty sand, sand, and gravelly sand. Sands were mainly found to the north and west of Lombok, while silts and sandy silts were found to the northeast of Lombok. Gravelly sands that comprise mostly of shell fragments were found to the northwest of Lombok.

Chemical analysis for eight major elements from twelve samples from eight locations showed that high SiO_2 was observed from samples taken near active volcanoes such as Agung and Rinjani. Samples taken from those area contain coarse volcanic fragments including pumice and lithic fragments. As opposed to SiO_2, CaO and MgO contents are higher in areas far from active volcanoes. Na_2O and K_2O showed slight relation with silica content, while FeO, Al_2O_3 and TiO showed no clear trends.